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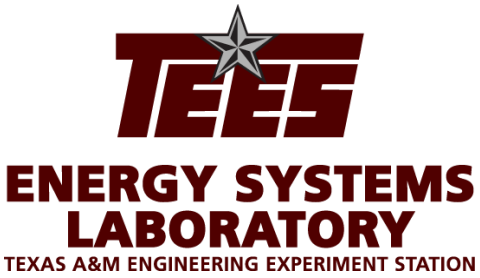

TAMU Project

Energy Consumption Data Quality Assurance/Quality Control Assessment Report for the

Month of February 2016

Prepared for

Utility & Energy Services

Division of Administration

Texas A&M University

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Executive Summary

This report analyzes the energy use data collected from 562 meters in 188 buildings and complexes (approximately 17,100,000 GSF) on the campus of Texas A&M University in College Station, Texas. The report consists of five sections: 1) The summary of the monthly energy consumption per meter ID, 2) The quality control and assurance analysis of incorrect or incomplete energy use patterns, 3) Energy consumption time series plots, 4) Energy Balance plots, and 5) Energy Balance plots with filled-in consumption data. Section one contains the summary of monthly energy consumption for each of the TAMU buildings. Section two includes the reviews on each of those building energy use patterns that presented problems in the metered data. Section three and four are a collection of the plots generated for the energy use analysis, as reference to indicate and validate the quality of the metered energy data. The Section five includes the energy balance plots with filled-in energy data.

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I. Summary of Monthly Consumption

Table I-1 February 2016 Monthly Consumption for TAMU Buildings

TAMU#	Building Name	Area (ft^2)	MeterID	Type	Monthly Consumption	Units	Comments
0270	Emerging Technologies Building	305,316	007469	ELE	187,594	kWh	
0270	Emerging Technologies Building	305,316	007470	ELE	50,548	kWh	
0270	Emerging Technologies Building	305,316	007471	CHW	707,476	mBtu	
0270	Emerging Technologies Building	305,316	007475	HHW	555,380	mBtu	
0275	Liberal Arts and Arts & Humanities Building	107,500	007715	ELE	61,446	kWh	
0275	Liberal Arts and Arts & Humanities Building	107,500	007716	CHW	328,473	mBtu	
0275	Liberal Arts and Arts & Humanities Building	107,500	007717	HHW	147,633	mBtu	
0290	Wells Residence Hall	67,283	006870	ELE	39,534	kWh	*
0290	Wells Residence Hall	67,283	001984	CHW	485,866	mBtu	
0290	Wells Residence Hall	67,283	001988	HHW	368,262	mBtu	
0291	Rudder Residence Hall	67,283	000351	ELE	51,712	kWh	
0291	Rudder Residence Hall	67,283	002132	CHW	615,739	mBtu	(2)
0291	Rudder Residence Hall	67,283	002136	HHW	450,990	mBtu	(2)
0292	Eppright Residence Hall	67,283	000002	ELE	45,981	kWh	
0292	Eppright Residence Hall	67,283	002262	CHW	221,157	mBtu	
0292	Eppright Residence Hall	67,283	002266	HHW	183,802	mBtu	
0293	Appelt Residence Hall	82,767	000003	ELE	54,006	kWh	
0293	Appelt Residence Hall	82,767	002062	CHW	515,332	mBtu	(2)
0293	Appelt Residence Hall	82,767	002066	HHW	307,616	mBtu	(2)
0294	Lechner Residence Hall	59,541	000004	ELE	40,836	kWh	(2)
0294	Lechner Residence Hall	59,541	002285	CHW	479,803	mBtu	(2)
0294	Lechner Residence Hall	59,541	002289	HHW	424,208	mBtu	(2)
0296-0297	Mitchell Inst. For Fundamental Phys & Astronomy	189,617	006536	ELE	115,212	kWh	
0296-0297	Mitchell Inst. For Fundamental Phys & Astronomy	189,617	006537	ELE	113,044	kWh	
0296-0297	Mitchell Inst. For Fundamental Phys & Astronomy	189,617	006534	CHW	407,608	mBtu	*
0296-0297	Mitchell Inst. For Fundamental Phys & Astronomy	189,617	006535	HHW	235,354	mBtu	*
0353	Bright Aerospace Building	148,837	001569	ELE	151,829	kWh	
0353	Bright Aerospace Building	148,837	002746	CHW	892,022	mBtu	(2)
0353	Bright Aerospace Building	148,837	002757	HHW	104,785	mBtu	(2)
0358	Davis Football Player Development Center	20,026	007699	ELE	25,386	kWh	
0358	Davis Football Player Development Center	20,026	007701	CHW	68,429	mBtu	
0358	Davis Football Player Development Center	20,026	007702	HHW	9,609	mBtu	
0361	Bright Football Complex	124,971	008461	ELE	209,953	kWh	*
0361	Bright Football Complex	124,971	002547	CHW	667,901	mBtu	
0361	Bright Football Complex	124,971	002551	HHW	282,076	mBtu	
0367	Kyle Field	489,000	000336	ELE	130,368	kWh	
0367	Kyle Field	489,000	008861	ELE	85,396	kWh	
0367	Kyle Field	489,000	008862	ELE	95,886	kWh	
0367	Kyle Field	489,000	008863	ELE	155,935	kWh	
0367	Kyle Field	489,000	008864	ELE	191,228	kWh	
0367	Kyle Field	489,000	008865	ELE	58,731	kWh	
0367	Kyle Field	489,000	008866	ELE	201,843	kWh	
0367	Kyle Field	489,000	008867	ELE	215,128	kWh	
0367	Kyle Field	489,000	008868	ELE	87,406	kWh	
0367	Kyle Field	489,000	008852	CHW	1,220,959	mBtu	*
0367	Kyle Field	489,000	008026	CHW	985,274	mBtu	
0367	Kyle Field	489,000	008856	HHW	305,823	mBtu	*
0367	Kyle Field	489,000	008027	HHW	895,659	mBtu	
0376	Chemistry Building Addition	115,797	006229	ELE	171,796	kWh	
0376	Chemistry Building Addition	115,797	006230	ELE	116,274	kWh	
0376	Chemistry Building Addition	115,797	007115	CHW	1,300,269	mBtu	
0376	Chemistry Building Addition	115,797	007119	HHW	1,661,036	mBtu	
0383	Koldus Building	110,272	001488	ELE	147,157	kWh	
0383	Koldus Building	110,272	002863	CHW	278,668	mBtu	
0383	Koldus Building	110,272	002874	HHW	88,621	mBtu	
0384	Sanders Corps of Cadets Center	19,363	001554	ELE	23,906	kWh	
0384	Sanders Corps of Cadets Center	19,363	002583	CHW	130,100	mBtu	
0384	Sanders Corps of Cadets Center	19,363	002587	HHW	106,775	mBtu	
0325-0385	CE TTI Office & Lab Building	157,844	009122	ELE	NA	kWh	*
0325-0385	CE TTI Office & Lab Building	157,844	009123	CHW	643,935	mBtu	
0325-0385	CE TTI Office & Lab Building	157,844	009124	HHW	NA	mBtu	*
0385-A	CE TTI Office & Lab Building - Pi R Square	9,393	004240	CHW	23,087	mBtu	
0385-A	CE TTI Office & Lab Building - Pi R Square	9,393	004245	HHW	20,857	mBtu	

Table I-1 February 2016 Monthly Consumption for TAMU Buildings (*Continued*)

TAMU#	Building Name	Area (ft^2)	MeterID	Type	Monthly Consumption	Units	Comments
0386	Jack E. Brown Chemical Engineering Building	205,000	001428	ELE	156,811	kWh	*
0386	Jack E. Brown Chemical Engineering Building	205,000	001429	ELE	333,162	kWh	*
0386	Jack E. Brown Chemical Engineering Building	205,000	002250	CHW	1,783,872	mBtu	*
0386	Jack E. Brown Chemical Engineering Building	205,000	006871	CHW	100,695	mBtu	*
0386	Jack E. Brown Chemical Engineering Building	205,000	002254	HHW	1,067,880	mBtu	*
0387	Richardson Petroleum Engineering Building	113,700	005870	ELE	83,626	kWh	
0387	Richardson Petroleum Engineering Building	113,700	005872	ELE	103,871	kWh	
0387	Richardson Petroleum Engineering Building	113,700	005805	CHW	484,696	mBtu	
0387	Richardson Petroleum Engineering Building	113,700	005809	HHW	281,311	mBtu	
0391-0392	James J. Cain'51 and Mechanical Engineering Office Building	173,481	001573	ELE	191,171	kWh	
0391-0392	James J. Cain'51 and Mechanical Engineering Office Building	173,481	002906	CHW	873,386	mBtu	
0391-0392	James J. Cain'51 and Mechanical Engineering Office Building	173,481	002910	HHW	370,764	mBtu	
0394	Underwood Residence Hall	81,730	000014	ELE	40,530	kWh	
0394	Underwood Residence Hall	81,730	002117	CHW	536,146	mBtu	(2)
0394	Underwood Residence Hall	81,730	002121	HHW	564,972	mBtu	(2)
0398	Langford Architecture Center Building A	116,619	003806	ELE	116,604	kWh	
0398	Langford Architecture Center Building A	116,619	003951	CHW	193,319	mBtu	
0398	Langford Architecture Center Building A	116,619	003955	HHW	89,104	mBtu	
0405-0407-1402	Lacy Hall - Dorm 6, Harrell Hall and Leadership Learning Center	91,310	007721	ELE	66,741	kWh	
0407-1402	Harrell Hall - Dorm 8 and Buzbee LLC	54,443	007722	CHW	233,830	mBtu	
0407-1402	Harrell Hall - Dorm 8 and Buzbee LLC	54,443	007723	HHW	135,131	mBtu	
0405	Lacy Hall - Dorm 6	36,867	007922	ELE	21,849	kWh	
0405	Lacy Hall - Dorm 6	36,867	007918	CHW	155,440	mBtu	#, (1)
0405	Lacy Hall - Dorm 6	36,867	007919	HHW	120,820	mBtu	
0407	Harrell Hall - Dorm 8	36,943	007729	ELE	27,764	kWh	
1402	Buzbee Leadership Learning Center	17,500	007725	CHW	70,419	mBtu	
1402	Buzbee Leadership Learning Center	17,500	007726	HHW	8,856	mBtu	
0406-1403	Leonard Hall - Dorm 7 and Ash LLC	54,179	007981	ELE	58,462	kWh	
0406-1403	Leonard Hall - Dorm 7 and Ash LLC	54,179	007982	CHW	221,049	mBtu	
0406-1403	Leonard Hall - Dorm 7 and Ash LLC	54,179	007983	HHW	149,453	mBtu	
0406	Leonard Hall - Dorm 7	36,893	008011	ELE	11,945	kWh	
0406	Leonard Hall - Dorm 7	36,893	008012	ELE	15,326	kWh	
1403	H. Grady Ash, Jr. '58 Leadership Learning Center	17,286	008005	CHW	57,719	mBtu	
1403	H. Grady Ash, Jr. '58 Leadership Learning Center	17,286	008006	HHW	38,916	mBtu	
0408	Whitely Hall - Dorm 9	36,893	000024	ELE	26,567	kWh	
0408	Whitely Hall - Dorm 9	36,893	002079	CHW	286,315	mBtu	
0408	Whitely Hall - Dorm 9	36,893	002083	HHW	218,329	mBtu	
0409	White Hall - Dorm 10	36,893	000025	ELE	25,118	kWh	
0409	White Hall - Dorm 10	36,893	002094	CHW	264,062	mBtu	
0409	White Hall - Dorm 10	36,893	002098	HHW	189,514	mBtu	
0410	Harrington Hall - Dorm 11	36,893	000327	ELE	19,811	kWh	
0410	Harrington Hall - Dorm 11	36,893	002349	CHW	231,051	mBtu	
0410	Harrington Hall - Dorm 11	36,893	002353	HHW	182,063	mBtu	
0411	Utay Hall - Dorm 12	36,943	000026	ELE	27,378	kWh	
0411	Utay Hall - Dorm 12	36,943	002102	CHW	192,245	mBtu	
0411	Utay Hall - Dorm 12	36,943	002106	HHW	150,927	mBtu	
0412	Moses Residence Hall	40,828	000027	ELE	31,613	kWh	
0412	Moses Residence Hall	40,828	002384	CHW	349,913	mBtu	
0412	Moses Residence Hall	40,828	002395	HHW	248,082	mBtu	
0415	Davis-Gary Residence Hall	40,828	000030	ELE	29,142	kWh	
0415	Davis-Gary Residence Hall	40,828	002532	CHW	345,968	mBtu	
0415	Davis-Gary Residence Hall	40,828	002543	HHW	287,841	mBtu	
0419	Legett Residence Hall	45,134	000031	ELE	24,067	kWh	
0419	Legett Residence Hall	45,134	002218	CHW	183,520	mBtu	
0419	Legett Residence Hall	45,134	002222	HHW	168,233	mBtu	
0420	Milner Hall	48,268	009144	ELE	21,472	kWh	*
0420	Milner Hall	48,268	009145	CHW	185,335	mBtu	#, (1)
0420	Milner Hall	48,268	009146	HHW	189,698	mBtu	
0422	Walton Residence Hall	51,494	000378	ELE	47,944	kWh	
0422	Walton Residence Hall	51,494	002364	HHW	99,407	mBtu	
0424	Hotard Hall	18,500	000032	ELE	11,961	kWh	
0424	Hotard Hall	18,500	002657	CHW	52,160	mBtu	
0424	Hotard Hall	18,500	002668	HHW	60,069	mBtu	
0425	Henderson Hall	22,185	001553	ELE	14,834	kWh	
0425	Henderson Hall	22,185	002607	CHW	116,923	mBtu	
0425	Henderson Hall	22,185	002611	HHW	104,583	mBtu	
0426-0427-0428	FHK Complex	154,349	000331	ELE	101,698	kWh	
0426-0427-0428	FHK Complex	154,349	002848	CHW	585,754	mBtu	
0426-0427-0428	FHK Complex	154,349	002859	HHW	670,792	mBtu	

Table I-1 February 2016 Monthly Consumption for TAMU Buildings (*Continued*)

TAMU#	Building Name	Area (ft^2)	MeterID	Type	Monthly Consumption	Units	Comments
0430	Schumacher Residence Hall	38,957	000034	ELE	35,285	kWh	
0430	Schumacher Residence Hall	38,957	002015	CHW	148,502	mBtu	
0430	Schumacher Residence Hall	38,957	002030	HHW	151,759	mBtu	
0359	Architecture Building B	28,545	005518	ELE	19,909	kWh	
0432	Architecture Building C	73,020	005584	ELE	76,747	kWh	
0359-0432	Architecture Building B&C	101,565	006419	CHW	428,590	mBtu	
0359-0432	Architecture Building B&C	101,565	006423	HHW	301,360	mBtu	
0434	Luedecke Building (Cyclotron)	80,646	005555	ELE	95,609	kWh	
0434	Luedecke Building (Cyclotron)	80,646	005558	ELE	837,862	kWh	
0434	Luedecke Building (Cyclotron)	80,646	006664	CHW	1,185,892	mBtu	
0434	Luedecke Building (Cyclotron)	80,646	006668	HHW	166,609	mBtu	
0435	Harrington Education Center Office Tower	130,844	001546	ELE	103,340	kWh	
0435	Harrington Education Center Office Tower	130,844	002792	CHW	464,471	mBtu	
0435	Harrington Education Center Office Tower	130,844	002796	HHW	403,715	mBtu	
0436	Reed-McDonald Building	77,435	006868	ELE	88,759	kWh	
0436	Reed-McDonald Building	77,435	002419	CHW	413,154	mBtu	
0436	Reed-McDonald Building	77,435	002423	HHW	392,983	mBtu	
0438	Harrington Education Center Classroom Building	61,860	003630	ELE	37,694	kWh	
0438	Harrington Education Center Classroom Building	61,860	002784	CHW	72,719	mBtu	
0438	Harrington Education Center Classroom Building	61,860	002788	HHW	11,633	mBtu	
0433-0440-0441-04	Mosher Commons Krueger Dunn Aston	577,584	009099	ELE	414,844	kWh	
0433	Mosher Residence Hall	155,430	009083	ELE	104,484	kWh	(2)
0433	Mosher Residence Hall	155,430	002485	CHW	1,476,912	mBtu	
0433	Mosher Residence Hall	155,430	002489	HHW	788,482	mBtu	
0441	Krueger Residence Hall	112,133	009091	ELE	119,112	kWh	
0441	Krueger Residence Hall	112,133	002504	CHW	829,647	mBtu	#, (1)
0441	Krueger Residence Hall	112,133	002500	HHW	534,575	mBtu	
0442	Dunn Residence Hall	112,133	009095	ELE	120,061	kWh	
0442	Dunn Residence Hall	112,133	002519	CHW	624,947	mBtu	
0442	Dunn Residence Hall	112,133	002515	HHW	479,659	mBtu	#, (1)
0447	Aston Residence Hall	113,388	009087	ELE	70,606	kWh	
0447	Aston Residence Hall	113,388	002474	CHW	691,790	mBtu	
0447	Aston Residence Hall	113,388	002470	HHW	631,501	mBtu	#, (1)
0443	Oceanography & Meteorology Building	180,316	005322	ELE	165,009	kWh	
0443	Oceanography & Meteorology Building	180,316	005323	ELE	58,050	kWh	
0443	Oceanography & Meteorology Building	180,316	006388	CHW	571,733	mBtu	
0443	Oceanography & Meteorology Building	180,316	006392	HHW	672,922	mBtu	
0444	Peterson Building	84,831	004714	ELE	146,065	kWh	
0444	Peterson Building	84,831	002922	CHW	787,758	mBtu	
0444	Peterson Building	84,831	006435	HHW	444,570	mBtu	
0445-0517	Teague Research Center and DPC Annex	89,735	003948	ELE	28,355	kWh	
0445-0517	Teague Research Center and DPC Annex	89,735	004719	ELE	48,137	kWh	
0445	Teague Research Center	63,515	006411	CHW	122,388	mBtu	
0445	Teague Research Center	63,515	006415	HHW	44,953	mBtu	#, (1)
0517	DPC Annex	26,220	006563	CHW	209,445	mBtu	
0517	DPC Annex	26,220	006567	HHW	420,206	mBtu	#, (1)
0446	Rudder Theatre Complex	209,293	002977	ELE	91,117	kWh	(2)
0446	Rudder Theatre Complex	209,293	002980	ELE	35,042	kWh	
0446	Rudder Theatre Complex	209,293	004297	CHW	1,349,305	mBtu	(2)
0446	Rudder Theatre Complex	209,293	004309	HHW	1,172,223	mBtu	(2)
0446	Rudder Tower	92,947	001550	ELE	28,556	kWh	
0446	Rudder Tower	92,947	001551	ELE	62,313	kWh	
0446	Rudder Tower	92,947	002455	CHW	349,316	mBtu	
0446	Rudder Tower	92,947	002459	HHW	252,929	mBtu	
0448	Adams Band Hall	55,248	000978	ELE	60,435	kWh	
0448	Adams Band Hall	55,248	002555	CHW	404,329	mBtu	
0448	Adams Band Hall	55,248	002566	HHW	295,848	mBtu	
0449	Biological Sciences Building - West	96,038	003978	ELE	180,826	kWh	
0449	Biological Sciences Building - West	96,038	003981	CHW	706,826	mBtu	
0449	Biological Sciences Building - West	96,038	003985	HHW	337,915	mBtu	
0450	Duncan Dining Hall	128,482	000300	ELE	108,965	kWh	
0450	Duncan Dining Hall	128,482	002998	CHW	281,678	mBtu	
0450	Duncan Dining Hall	128,482	003009	HHW	141,321	mBtu	

Table I-1 February 2016 Monthly Consumption for TAMU Buildings (*Continued*)

TAMU#	Building Name	Area (ft^2)	MeterID	Type	Monthly Consumption	Units	Comments
0454	MSC (East Main)	392,000	007600	ELE	306,037	kWh	
0454	MSC (West Main)	392,000	007601	ELE	224,121	kWh	
0454	MSC BOR	392,000	007420	ELE	18,062	kWh	*, (2)
0454	MSC	392,000	007584	CHW	1,440,551	mBtu	
0454	MSC BOR	392,000	004184	CHW	261,633	mBtu	
0454	MSC	392,000	007585	HHW	515,254	mBtu	
0454	MSC BOR	392,000	004196	HHW	260,607	mBtu	
0456	Military Sciences Building	43,808	006939	CHW	337,518	mBtu	
0456	Military Sciences Building	43,808	006943	HHW	210,769	mBtu	
0457	TAES Annex Building	16,364	005863	ELE	13,990	kWh	
0457	TAES Annex Building	16,364	005913	CHW	33,571	mBtu	
0457	TAES Annex Building	16,364	005917	HHW	37,020	mBtu	#, (1)
0461	Coke Building	24,466	004008	ELE	32,984	kWh	
0461	Coke Building	24,466	005307	CHW	87,074	mBtu	
0461	Coke Building	24,466	004023	HHW	57,915	mBtu	
0462	Academic Building	82,555	005861	ELE	21,472	kWh	
0462	Academic Building	82,555	005903	ELE	32,199	kWh	
0462	Academic Building	82,555	005905	CHW	472,104	mBtu	
0462	Academic Building	82,555	005909	HHW	482,310	mBtu	
0463	Psychology Building	48,215	001575	ELE	39,622	kWh	
0463	Psychology Building	48,215	002941	CHW	154,834	mBtu	(2)
0463	Psychology Building	48,215	002945	HHW	86,742	mBtu	
0464	State Chemist Building	20,027	005839	ELE	4,768	kWh	
0464	State Chemist Building	20,027	005837	ELE	6,501	mBtu	
0464	State Chemist Building	20,027	005841	HHW	14,469	mBtu	
0465	Butler Hall	29,699	003997	ELE	30,812	kWh	*
0465	Butler Hall	29,699	004000	CHW	128,328	mBtu	
0465	Butler Hall	29,699	004004	HHW	105,705	mBtu	
0467	Biological Sciences Building - East	62,273	001543	ELE	176,632	kWh	*, (2)
0467	Biological Sciences Building - East	62,273	003851	CHW	523,352	mBtu	(2)
0467	Biological Sciences Building - East	62,273	003862	HHW	293,333	mBtu	(2)
0468	Evans Library	712,093	000304	ELE	256,769	kWh	
0468	Evans Library	712,093	000318	ELE	102,901	kWh	*
0468	Evans Library	712,093	000319	ELE	99,964	kWh	
0468	Evans Library	712,093	000320	ELE	85,174	kWh	*
0468	Evans Library	712,093	006429	ELE	94,747	kWh	*
0468	Evans Library	712,093	003701	CHW	983,750	mBtu	
0468	Evans Library	712,093	003895	CHW	1,106,517	mBtu	
0468	Evans Library	712,093	003903	CHW	203,733	mBtu	*
0468	Evans Library	712,093	003911	CHW	900,760	mBtu	
0468	Evans Library	712,093	003712	HHW	445,895	mBtu	
0468	Evans Library	712,093	003899	HHW	507,471	mBtu	
0468	Evans Library	712,093	003907	HHW	52,754	mBtu	*
0468	Evans Library	712,093	003922	HHW	99,044	mBtu	
0468	Evans Library	712,093	005303	HHW	57,531	mBtu	
0469	Central Campus Parking Garage	251,304	000306	ELE	44,962	kWh	*
0469	Central Campus Parking Garage	2,844	003716	CHW	11,520	mBtu	
0469	Central Campus Parking Garage	2,844	003720	HHW	17,532	mBtu	
0470	Glasscock History Bldg	39,887	006407	ELE	16,593	kWh	
0470	Glasscock History Bldg	39,887	006638	CHW	115,336	mBtu	
0470	Glasscock History Bldg	39,887	006642	HHW	72,265	mBtu	
0471	Pavilion	40,062	001455	ELE	35,144	kWh	
0471	Pavilion	40,062	002769	CHW	94,715	mBtu	
0471	Pavilion	40,062	002780	HHW	21,577	mBtu	
0472	Animal Industries	44,856	009042	ELE	45,744	kWh	*
0472	Animal Industries	44,856	009109	CHW	181,077	mBtu	
0472	Animal Industries	44,856	009113	HHW	219,889	mBtu	
0473	Williams Administration Building	69,898	007945	ELE	55,180	kWh	
0473	Williams Administration Building	69,898	007946	CHW	409,222	mBtu	
0473	Williams Administration Building	69,898	007947	HHW	336,911	mBtu	
0474	YMCA Building	36,035	007524	ELE	21,807	kWh	
0474	YMCA Building	36,035	007525	CHW	46,860	mBtu	
0474	YMCA Building	36,035	007526	HHW	11,348	mBtu	
0476	Francis Hall	36,850	008015	ELE	34,993	kWh	
0476	Francis Hall	36,850	008033	CHW	111,781	mBtu	
0476	Francis Hall	36,850	008034	HHW	49,615	mBtu	

Table I-1 February 2016 Monthly Consumption for TAMU Buildings (*Continued*)

TAMU#	Building Name	Area (ft^2)	MeterID	Type	Monthly Consumption	Units	Comments
0477	Anthropology Building	51,592	001558	ELE	26,609	kWh	
0477	Anthropology Building	51,592	003664	CHW	138,341	mBtu	
0477	Anthropology Building	51,592	003668	HHW	143,992	mBtu	
0478	Scoates Hall	62,228	007961	ELE	63,507	kWh	
0478	Scoates Hall	62,228	007968	CHW	327,389	mBtu	
0478	Scoates Hall	62,228	007969	HHW	262,201	mBtu	
0480	Bolton Hall	39,686	006845	ELE	33,144	kWh	
0480	Bolton Hall	39,686	007012	CHW	117,535	mBtu	
0480	Bolton Hall	39,686	007016	HHW	47,698	mBtu	#, (1)
0481	Heaton Hall	13,640	005712	ELE	NA	kWh	
0481	Heaton Hall	13,640	007531	CHW	210,582	mBtu	
0481	Heaton Hall	13,640	007535	HHW	184,491	mBtu	
0482	Fermier Hall	19,074	005779	ELE	24,343	kWh	
0482	Fermier Hall	19,074	005878	CHW	273,504	mBtu	
0482	Fermier Hall	19,074	005881	HHW	207,435	mBtu	
0483	Thompson Hall	81,404	003688	ELE	63,547	kWh	
0483	Thompson Hall	81,404	003887	CHW	138,901	mBtu	
0483	Thompson Hall	81,404	003891	HHW	61,620	mBtu	
0484	Chemistry Building	205,393	007152	ELE	93,406	kWh	
0484	Chemistry Building	205,393	007556	ELE	15,065	kWh	*
0484	Chemistry Building	205,393	007557	ELE	118,788	kWh	*
0484	Chemistry Building	205,393	007559	ELE	180,591	kWh	*
0484	Chemistry Building	205,393	007028	CHW	963,500	mBtu	
0484	Chemistry Building	205,393	007223	CHW	1,597,454	mBtu	
0484	Chemistry Building	205,393	007032	HHW	821,520	mBtu	
0484	Chemistry Building	205,393	007227	HHW	1,517,714	mBtu	
0490	Halbouty Geosciences Building	120,874	006691	ELE	67,563	kWh	
0490	Halbouty Geosciences Building	120,874	006695	ELE	101,628	kWh	
0490	Halbouty Geosciences Building	120,874	006896	CHW	649,659	mBtu	
0490	Halbouty Geosciences Building	120,874	006913	CHW	377,966	mBtu	
0490	Halbouty Geosciences Building	120,874	006900	HHW	410,895	mBtu	
0490	Halbouty Geosciences Building	120,874	006917	HHW	227,800	mBtu	
0492	Civil Engineering Building	56,537	005783	ELE	70,860	kWh	
0492	Civil Engineering Building	56,537	005950	CHW	289,806	mBtu	(2)
0492	Civil Engineering Building	56,537	005954	HHW	182,659	mBtu	
0495	Sbisa Dining Hall	94,233	000352	ELE	140,408	kWh	
0495	Sbisa Dining Hall	94,233	000353	ELE	117,882	kWh	
0495	Sbisa Dining Hall	94,233	001951	CHW	705,285	mBtu	
0495	Sbisa Dining Hall	94,233	001957	HHW	278,830	mBtu	
0496	Utilities & Energy Services Central Office	46,110	007706	ELE	10,312	kWh	(2)
0496	Utilities & Energy Services Central Office	46,110	006929	CHW	76,040	mBtu	(2)
0496	Utilities & Energy Services Central Office	46,110	006933	HHW	30,404	mBtu	(2)
0499	Engineering Innovation Center	28,339	001561	ELE	26,083	kWh	
0499	Engineering Innovation Center	28,339	002672	CHW	52,123	mBtu	(2)
0499	Engineering Innovation Center	28,339	002683	HHW	40,761	mBtu	#, (1) (2)
0501	Concrete Materials Laboratory	9,600	005791	ELE	5,177	kWh	*
0506	Nagle Hall	32,306	001484	ELE	12,990	kWh	*, (2)
0506	Nagle Hall	32,306	003619	CHW	193,972	mBtu	
0506	Nagle Hall	32,306	003623	HHW	83,511	mBtu	
0507	Veterinary Medical Science Building	69,367	003013	ELE	86,471	kWh	
0507	Veterinary Medical Science Building	69,367	003640	CHW	708,688	mBtu	
0507	Veterinary Medical Science Building	69,367	003644	HHW	465,449	mBtu	
0508	Veterinary Teaching Hospital	96,416	003022	ELE	82,246	kWh	
0508-1026	Veterinary Teaching Hospital and Veterinary Medicine Administration	191,096	004166	CHW	1,321,715	mBtu	
0508-1026	Veterinary Teaching Hospital and Veterinary Medicine Administration	191,096	004170	HHW	1,073,877	mBtu	(1)
0511	Heep Laboratory Building	40,476	005787	ELE	65,007	kWh	
0511	Heep Laboratory Building	40,476	005821	CHW	383,392	mBtu	
0511	Heep Laboratory Building	40,476	005825	HHW	234,032	mBtu	
0512	All Faiths Chapel	8,999	004340	ELE	7,106	kWh	
0512	All Faiths Chapel	8,999	004288	CHW	64,439	mBtu	
0512	All Faiths Chapel	8,999	004293	HHW	64,848	mBtu	
0513	Doherty Building	42,336	000299	ELE	54,032	kWh	*
0513	Doherty Building	42,336	002898	CHW	417,576	mBtu	
0513	Doherty Building	42,336	002902	HHW	381,820	mBtu	
0514	Munnerlyn Astronomy & Space Sciences Engineering	22,134	007558	ELE	13,123	kWh	
0514	Munnerlyn Astronomy & Space Sciences Engineering	22,134	007487	CHW	36,130	mBtu	
0514	Munnerlyn Astronomy & Space Sciences Engineering	22,134	007491	HHW	9,437	mBtu	

Table I-1 February 2016 Monthly Consumption for TAMU Buildings (*Continued*)

TAMU#	Building Name	Area (ft^2)	MeterID	Type	Monthly Consumption	Units	Comments
0516	Computing Services Center	30,014	005259	ELE	482,306	kWh	
0516	Computing Services Center	30,014	003959	CHW	1,311,414	mBtu	
0516	Computing Services Center	30,014	003963	HHW	1	mBtu	
0520	Beutel Health Center	63,318	003785	ELE	61,064	kWh	
0520	Beutel Health Center	63,318	003933	CHW	464,047	mBtu	#, (1)
0520	Beutel Health Center	63,318	003944	HHW	265,038	mBtu	#, (1)
0521	Heldenfels Hall	104,949	001547	ELE	86,210	kWh	
0521	Heldenfels Hall	104,949	002962	CHW	456,856	mBtu	
0521	Heldenfels Hall	104,949	002973	HHW	256,501	mBtu	
0524	Blocker building	257,953	001545	ELE	212,692	kWh	*
0524	Blocker building	257,953	002914	CHW	982,387	mBtu	
0524	Blocker building	257,953	002918	HHW	183,149	mBtu	(2)
0548	Clements Residence Hall	62,156	000048	ELE	34,422	kWh	
0548	Clements Residence Hall	62,156	002729	CHW	383,932	mBtu	
0548	Clements Residence Hall	62,156	002740	HHW	321,958	mBtu	
0549	Haas Residence Hall	69,668	001398	ELE	43,759	kWh	*
0549	Haas Residence Hall	69,668	002983	CHW	409,591	mBtu	
0549	Haas Residence Hall	69,668	002994	HHW	358,332	mBtu	
0550	McFadden Residence Hall	62,156	000339	ELE	39,260	kWh	
0550	McFadden Residence Hall	62,156	002188	CHW	531,215	mBtu	
0550	McFadden Residence Hall	62,156	002192	HHW	436,355	mBtu	
0652	Neeley Residence Hall	69,668	000056	ELE	47,017	kWh	
0652	Neeley Residence Hall	69,668	002147	CHW	419,890	mBtu	
0652	Neeley Residence Hall	69,668	002151	HHW	280,904	mBtu	
0653	Hobby Residence Hall	62,156	000057	ELE	43,861	kWh	
0653	Hobby Residence Hall	62,156	002401	CHW	563,662	mBtu	
0653	Hobby Residence Hall	62,156	002405	HHW	405,484	mBtu	
0682	Wisenbaker Engineering Research Center	177,704	005246	ELE	209,660	kWh	
0682	Wisenbaker Engineering Research Center	177,704	003879	CHW	685,623	mBtu	
0682	Wisenbaker Engineering Research Center	177,704	003883	HHW	270,486	mBtu	
0740	McNew Laboratory	20,904	005874	ELE	47,936	kWh	
0740	McNew Laboratory	20,904	005974	CHW	350,041	mBtu	
0740	McNew Laboratory	20,904	005968	HHW	170,349	mBtu	#, (1)
0806	Soil Testing Labs	5,544	006875	ELE	19,084	kWh	
0815	Entomology Research Lab	17,618	005799	ELE	30,045	kWh	
0815	Entomology Research Lab	17,618	006043	CHW	108,909	mBtu	
0880	TVMC-Small Animal Building	3,260	005958	CHW	23,825	mBtu	
0880	TVMC-Small Animal Building	3,260	005962	HHW	605	mBtu	(2)
0972	Laboratory Animal Care Building	52,178	007063	ELE	126,168	kWh	
0972	Laboratory Animal Care Building	52,178	007067	ELE	50,158	kWh	
0972	Laboratory Animal Care Building	52,178	007071	CHW	950,301	mBtu	
0972	Laboratory Animal Care Building	52,178	006991	HHW	570,471	mBtu	
1020	Vivarium III	12,234	005857	ELE	20,167	kWh	
1020	Vivarium III	12,234	005997	CHW	164,997	mBtu	#, (1)
1020	Vivarium III	12,234	006001	HHW	120,103	mBtu	#, (1)
1026	Veterinary Medicine Administration	94,680	006072	ELE	152,384	kWh	
1026	Veterinary Medicine Administration	94,680	006049	CHW	772,088	mBtu	
1026	Veterinary Medicine Administration	98,680	006053	HHW	621,484	mBtu	*
1041	Texas Vet Med Diagnostic Lab	55,169	001466	ELE	94,989	kWh	
1041	Texas Vet Med Diagnostic Lab	55,169	001539	ELE	77,459	kWh	
1041	Texas Vet Med Diagnostic Lab	55,169	003817	CHW	381,539	mBtu	
1041	Texas Vet Med Diagnostic Lab	55,169	004137	CHW	571,247	mBtu	
1041	Texas Vet Med Diagnostic Lab	55,169	003821	HHW	207,930	mBtu	
1041	Texas Vet Med Diagnostic Lab	55,169	004130	HHW	222,070	mBtu	
1042	Forest Science Laboratory Building	9,632	006036	ELE	21,957	kWh	*
1085	Veterinary Small Animal Hospital	103,440	004136	ELE	227,065	kWh	
1085	Veterinary Small Animal Hospital	103,440	003656	CHW	939,787	mBtu	
1085	Veterinary Small Animal Hospital	103,440	003660	HHW	538,824	mBtu	#, (1)
1089	Utilities Energy Office Annex	2,937	006964	ELE	3,491	kWh	
1146	Biological Control Facility	13,492	005795	ELE	30,859	kWh	(2)
1146	Biological Control Facility	13,492	005887	CHW	128,575	mBtu	#, (1)
1146	Biological Control Facility	13,492	005891	HHW	75,689	mBtu	
1156	Physical Plant Administration & Shops	101,704	007483	ELE	102,510	kWh	
1156	Physical Plant Administration & Shops	101,704	007679	CHW	104,907	mBtu	#, (1), (2)
1156	Physical Plant Administration & Shops	101,704	007683	HHW	160,020	mBtu	

Table I-1 February 2016 Monthly Consumption for TAMU Buildings (*Continued*)

TAMU#	Building Name	Area (ft^2)	MeterID	Type	Monthly Consumption	Units	Comments
1184	Veterinary Anatomic Pathology	17,223	001445	ELE	51,431	kWh	*
1184	Veterinary Anatomic Pathology	17,223	006995	CHW	100,606	mBtu	
1184	Veterinary Anatomic Pathology	17,223	006999	HHW	168,595	mBtu	
1194	Veterinary Large Animal Hospital	140,865	005256	ELE	89,596	kWh	
1194	Veterinary Large Animal Hospital	140,865	003016	ELE	66,733	kWh	
1194	Veterinary Large Animal Hospital	140,865	007455	ELE	38,428	kWh	
1194	Veterinary Large Animal Hospital	140,865	003648	CHW	712,700	mBtu	
1194	Veterinary Large Animal Hospital	140,865	007456	CHW	201,693	mBtu	
1194	Veterinary Large Animal Hospital	140,865	003652	HHW	872,538	mBtu	
1194	Veterinary Large Animal Hospital	140,865	007457	HHW	49,482	mBtu	
1197	Veterinary Research Building	114,666	006355	ELE	64,319	kWh	(2)
1197	Veterinary Research Building	114,666	006359	ELE	31,362	kWh	(2)
1197	Veterinary Research Building	114,666	006062	CHW	936,821	mBtu	
1197	Veterinary Research Building	114,666	006066	HHW	851,684	mBtu	
1416	Hullabaloo Residence Hall	253,452	007845	ELE	184,424	kWh	
1416	Hullabaloo Residence Hall	253,452	007846	CHW	689,039	mBtu	
1416	Hullabaloo Residence Hall	253,452	007847	HHW	214,574	mBtu	
1450	University Apartments - Laundry at the Gardens	1,428	006885	ELE	5,345	kWh	
1451	University Apartments - The Gardens J	33,535	006981	ELE	21,555	kWh	
1453	University Apartments - The Gardens L	33,535	006884	ELE	18,234	kWh	
1454	University Apartments - The Gardens F	33,535	006980	ELE	21,440	kWh	*
1455	University Apartments - The Gardens G	33,535	006882	ELE	19,177	kWh	*
1456	University Apartments - The Gardens H	33,535	007962	ELE	18,831	kWh	
1457	University Apartments - The Gardens M	33,535	007503	ELE	23,080	kWh	
1458	University Apartments - The Gardens N	33,535	007504	ELE	25,383	kWh	
1459	University Apartments - The Gardens P	33,535	007505	ELE	24,586	kWh	
1460	University Apartments - The Gardens Q	33,535	007506	ELE	20,203	kWh	
1497	Utilities & Energy Services Business Office	3,480	007082	ELE	3,849	kWh	
1497	Utilities & Energy Services Business Office	3,480	006341	CHW	11,781	mBtu	
1497	Utilities & Energy Services Business Office	3,480	006345	HHW	8,038	mBtu	
1501	Kleberg Center	165,031	007449	ELE	252,104	kWh	
1501	Kleberg Center	165,031	002624	CHW	929,288	mBtu	(2)
1501	Kleberg Center	165,031	002628	HHW	1,130,901	mBtu	
1502	Heep Center	158,979	001556	ELE	243,491	kWh	
1502	Heep Center	158,979	002599	CHW	956,012	mBtu	
1502	Heep Center	158,979	002603	HHW	330,029	mBtu	
1503	Cater-Mattil Hall	27,958	007977	ELE	89,774	kWh	
1503	Cater-Mattil Hall	27,958	008001	CHW	169,916	mBtu	
1504	Reynolds Medical Sciences Building	169,859	003975	ELE	219,471	kWh	
1504	Reynolds Medical Sciences Building	169,859	003989	CHW	1,014,093	mBtu	
1504	Reynolds Medical Sciences Building	169,859	003993	HHW	579,267	mBtu	
1505	Rosenthal Meat Science & Technology Center	30,889	003627	ELE	119,979	kWh	*
1505	Rosenthal Meat Science & Technology Center	30,889	002573	CHW	136,883	mBtu	
1505	Rosenthal Meat Science & Technology Center	30,889	002577	HHW	77,770	mBtu	
1506	Horticulture-Forest Science Building	118,648	001544	ELE	154,187	kWh	
1506	Horticulture-Forest Science Building	118,648	003967	CHW	320,884	mBtu	
1506	Horticulture-Forest Science Building	118,648	003971	HHW	218,796	mBtu	
1507	Biochemistry-Biophysics Building	166,079	001459	ELE	144,688	kWh	
1507	Biochemistry-Biophysics Building	166,079	001460	ELE	159,123	kWh	
1507	Biochemistry-Biophysics Building	166,079	003025	CHW	605,097	mBtu	
1507	Biochemistry-Biophysics Building	166,079	003029	HHW	926,898	mBtu	
1508	Price Hobgood Ag. Engineering Research Lab	27,666	005638	ELE	27,677	kWh	
1508	Price Hobgood Ag. Engineering Research Lab	27,666	006005	CHW	26,544	mBtu	
1508	Price Hobgood Ag. Engineering Research Lab	27,666	006009	HHW	20,589	mBtu	
1509	Medical Sciences Library	84,183	000350	ELE	115,684	kWh	
1509	Medical Sciences Library	84,183	003777	CHW	523,320	mBtu	
1509	Medical Sciences Library	84,183	003781	HHW	238,863	mBtu	(1)
1510	Wehner Building	259,681	006849	ELE	206,617	kWh	
1510	Wehner Building	259,681	006685	ELE	229,102	kWh	
1510	Wehner Building	259,681	002687	CHW	984,934	mBtu	
1510	Wehner Building	259,681	002691	HHW	234,112	mBtu	
1511	West Campus Library Facility	68,125	004342	ELE	93,826	kWh	
1511	West Campus Library Facility	68,125	004313	CHW	474,982	mBtu	
1511	West Campus Library Facility	68,125	004318	HHW	186,279	mBtu	
1512	Southern Crop Improvement Greenhouse	48,154	005931	ELE	83,073	kWh	#, (1)
1513	Borlaug Center for Southern Crop Improvement	68,739	005802	ELE	328,763	kWh	
1513	Borlaug Center for Southern Crop Improvement	68,739	005936	CHW	572,005	mBtu	
1513	Borlaug Center for southern Crop Improvement	68,739	005895	HHW	229,934	mBtu	

Table I-1 February 2016 Monthly Consumption for TAMU Buildings (*Continued*)

TAMU#	Building Name	Area (ft^2)	MeterID	Type	Monthly Consumption	Units	Comments
1518	TX School of Rural Public Health A	69,079	005273	ELE	72,831	kWh	
1519	TX School of Rural Public Health B	24,761	005274	ELE	46,121	kWh	#, (1)
1520	TX School of Rural Public Health C	13,264	005275	ELE	96,953	kWh	*, #, (1)
1518-1519-1520	TX School of Rural Public Health A,B,C	107,104	005294	CHW	313,549	mBtu	
1518-1519-1520	TX School of Rural Public Health A,B,C	107,104	005298	HHW	282,029	mBtu	
1525	Nuclear Magnetic Resonance Facility	37,282	006718	ELE	81,828	kWh	*
1525	Nuclear Magnetic Resonance Facility	37,282	006715	CHW	515,385	mBtu	
1525	Nuclear Magnetic Resonance Facility	37,282	006716	HHW	480,736	mBtu	
1530	Interdisciplinary Life Sciences Building	218,540	006286	ELE	357,610	kWh	
1530	Interdisciplinary Life Sciences Building	218,540	006288	ELE	214,240	kWh	*
1530	Interdisciplinary Life Sciences Building	218,540	006290	CHW	1,784,784	mBtu	
1530	Interdisciplinary Life Sciences Building	218,540	006294	HHW	1,399,236	mBtu	
1535	Agriculture and Life Sciences Building	168,353	007205	ELE	110,105	kWh	
1535	Agriculture and Life Sciences Building	168,353	007206	CHW	361,585	mBtu	
1535	Agriculture and Life Sciences Building	168,353	007207	HHW	53,490	mBtu	
1536	AgriLife Services Building	80,907	007571	ELE	46,946	kWh	
1536	AgriLife Services Building	80,907	007572	CHW	140,175	mBtu	
1536	AgriLife Services Building	80,907	007573	HHW	62,564	mBtu	
1538	Agriculture Program Visitors Center	12,923	007209	ELE	13,600	kWh	
1538	Agriculture Program Visitors Center	12,923	007210	CHW	54,442	mBtu	
1538	Agriculture Program Visitors Center	12,923	007211	HHW	21,015	mBtu	
1540	Physical Education Activity Program Building	116,900	007881	ELE	78,775	kWh	
1540	Physical Education Activity Program Building	116,900	007878	CHW	260,433	mBtu	
1540	Physical Education Activity Program Building	116,900	007879	HHW	230,830	mBtu	
1550	Olsen Field at Bluebell Park	60,537	007560	ELE	109,666	kWh	
1554	Reed Arena	230,000	007582	ELE	168,230	kWh	
1554	Reed Arena	230,000	006243	ELE	561	kWh	(1)
1554	Reed Arena	230,000	006244	ELE	89,718	kWh	
1554-1558	Reed Arena and Cox-McFerrin Center	328,185	007576	CHW	1,400,504	mBtu	
1554-1558	Reed Arena and Cox-McFerrin Center	328,185	007578	HHW	775,449	mBtu	
1558	Cox-McFerrin Center for Aggie Basketball	98,185	007581	ELE	75,806	kWh	
1558	Cox-McFerrin Center for Aggie Basketball	98,185	007575	CHW	241,973	mBtu	
1558	Cox-McFerrin Center for Aggie Basketball	98,185	007577	HHW	132,492	mBtu	
1559	West Campus Parking Garage	1,541,457	001453	ELE	154,322	kWh	
1559	West Campus Parking Garage	13,000	004322	CHW	27,972	mBtu	(2)
1559	West Campus Parking Garage	13,000	004327	HHW	24,002	mBtu	(1)
1560	Student Recreation Center	334,642	000363	ELE	165,537	kWh	
1560	Student Recreation Center	334,642	000366	ELE	352,545	kWh	
1560	Student Recreation Center	334,642	002933	CHW	1,836,579	mBtu	
1560	Student Recreation Center	334,642	002937	HHW	1,818,232	mBtu	
1590	White Creek Apartment 1	168,246	008517	ELE	105,516	kWh	
1590	White Creek Apartment 1	168,246	008518	CHW	256,148	mBtu	*
1590	White Creek Apartment 1	168,246	008522	HHW	98,724	mBtu	*
1591	White Creek Apartment 2	179,467	008528	ELE	110,987	kWh	
1591	White Creek Apartment 2	179,467	008529	CHW	235,307	mBtu	*
1591	White Creek Apartment 2	179,467	008533	HHW	110,618	mBtu	*
1592	White Creek Apartment 3	179,467	008538	ELE	113,766	kWh	
1592	White Creek Apartment 3	179,467	008539	CHW	301,731	mBtu	
1592	White Creek Apartment 3	179,467	008543	HHW	97,576	mBtu	
1600	Gilchrist TTI Building	67,143	005286	ELE	48,720	kWh	
1600	Gilchrist TTI Building	67,143	002649	CHW	166,619	mBtu	
1600	Gilchrist TTI Building	67,143	002653	HHW	138,328	mBtu	
1601	International Ocean Discovery Building	86,576	006351	ELE	116,733	kWh	
1601	International Ocean Discovery Building	86,576	006382	CHW	151,359	mBtu	
1601	International Ocean Discovery Building	86,576	008144	CHW	32,849	mBtu	(2)
1601	International Ocean Discovery Building	86,576	008145	HHW	35,818	mBtu	
1604	Offshore Technology Research Center	40,014	006659	ELE	81,046	kWh	
1604	Offshore Technology Research Center	40,014	006660	ELE	7,153	kWh	(2)
1604	Offshore Technology Research Center	40,014	008142	CHW	304,755	mBtu	
1604	Offshore Technology Research Center	40,014	008143	HHW	217,961	mBtu	
1606	George Bush Presidential Library & Museum	121,678	000244	ELE	97,984	kWh	
1606	George Bush Presidential Library & Museum	121,678	002808	CHW	485,633	mBtu	
1606	George Bush Presidential Library & Museum	121,678	002812	HHW	279,889	mBtu	
1607	Allen Building	133,327	000243	ELE	90,988	kWh	*
1607	Allen Building	133,327	002800	CHW	264,667	mBtu	
1607	Allen Building	133,327	002804	HHW	83,371	mBtu	

Table I-1 February 2016 Monthly Consumption for TAMU Buildings (*Continued*)

TAMU#	Building Name	Area (ft^2)	MeterID	Type	Monthly Consumption	Units	Comments
1608	Annenberg Presidential Conference Center	65,688	000245	ELE	66,524	kWh	
1608	Annenberg Presidential Conference Center	65,688	002761	CHW	523,344	mBtu	
1608	Annenberg Presidential Conference Center	65,688	002765	HHW	455,118	mBtu	
1609	TTI Headquarters	66,707	006495	ELE	54,665	kWh	*
1609	TTI Headquarters	66,707	006496	CHW	214,034	mBtu	
1609	TTI Headquarters	66,707	006497	HHW	100,407	mBtu	
1611	Engineering Research Building	35,000	008462	ELE	160,301	kWh	(2)
1611	Engineering Research Building	35,000	008463	CHW	830,637	mBtu	(2)
1611	Engineering Research Building	35,000	008467	HHW	619,266	mBtu	(2)
1800	General Services Complex	203,369	005441	ELE	182,737	kWh	
1800	General Services Complex	203,369	005468	CHW	557,391	mBtu	
1800	General Services Complex	203,369	005472	HHW	66,456	mBtu	
1810	Office of the State Chemist Building	31,735	009073	ELE	58,413	kWh	#, (1)
1810	Office of the State Chemist Building	31,735	005460	CHW	102,851	mBtu	
1810	Office of the State Chemist Building	31,735	005464	HHW	137,136	mBtu	
1811	Vet Med Research Bldg Addition	52,993	006705	ELE	204,696	kWh	
1811	Vet Med Research Bldg Addition	52,993	006706	CHW	303,504	mBtu	
1811	Vet Med Research Bldg Addition	52,993	006707	HHW	379,201	mBtu	
1900	Texas Institute for Genomic Medicine	34,120	005548	ELE	76,721	kWh	
1900	Texas Institute for Genomic Medicine	34,120	005545	CHW	383,688	mBtu	
1900	Texas Institute for Genomic Medicine	34,120	005546	HHW	346,773	mBtu	#, (1)
1904	Texas A&M Institute for Preclinical Studies A	113,559	006364	ELE	209,815	kWh	
1904	Texas A&M Institute for Preclinical Studies A	113,559	006365	CHW	911,427	mBtu	
1904	Texas A&M Institute for Preclinical Studies A	113,559	006366	HHW	864,688	mBtu	#, (1)
1910	National Center for Therapeutics Manufacturing	149,924	007517	ELE	180,060	kWh	
1910	National Center for Therapeutics Manufacturing	149,924	007518	ELE	166,937	kWh	
1910	National Center for Therapeutics Manufacturing	149,924	007519	CHW	2,132,498	mBtu	
1910	National Center for Therapeutics Manufacturing	149,924	007520	HHW	1,136,251	mBtu	
1911	Multi-Species Research Building	21,000	009138	ELE	NA	kWh	*
1911	Multi-Species Research Building	21,000	009129	CHW	135,825	mBtu	
1911	Multi-Species Research Building	21,000	009133	HHW	131,401	mBtu	
10226	NCTM Manufacturing Building	113,397	007652	ELE	NA	kWh	*
10226	NCTM Manufacturing Building	113,397	007648	CHW	1,862,357	mBtu	
10226	NCTM Manufacturing Building	113,397	007649	HHW	756,831	mBtu	
10226	NCTM Manufacturing Building	113,397	008133	HHW	118,124	mBtu	

1 mBtu = 1 000 Btu

NA: Not available
Monthly consumption in blue: Modified values
* : Missing data
# : Questionable data
(1): Consumption estimated and documented in the report *Part II - Data Analysis: Energy Use Estimation and Observations Section 2*
(2): Observation(s) documented in the report *Part II - Data Analysis: Energy Use Estimation and Observations Section 3*
(3): Missing data or changed consumption levels due to construction

II. Data Analysis: Energy Use Estimation and Observation

II-1 Meters with Missing Energy Consumption Data

During the month of February 2016, 52 meters in 37 buildings and complexes have missing daily data. The missing data have been filled in using consumption models based on the past data if available or using linear interpolation or some sort of average, and the monthly consumption has been estimated with the filled-in daily consumption. Table II-1 is the list of meters with missing data.

Table II-1 Meters with missing data during February 2016

Building No.	Building Name	MeterID	Type	Unit	Original Monthly Consumption	Estimated Monthly Consumption	# of Days	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29
290	Wells Residence Hall	006870	ELE	kWh	770	39,534	29	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A
0296-0297	Mitchell Inst. For Fundamental Phys & Astronomy	006534	CHW	mBtu	296,850	407,608	12	M	M	M	M	M	M	M	M	M	M	M	M																	
0296-0297	Mitchell Inst. For Fundamental Phys & Astronomy	006535	HHW	mBtu	138,158	235,354	12	M	M	M	M	M	M	M	M	M	M	M	M																	
361	Bright Football Complex	008461	ELE	kWh	NA	209,953	29	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
367	Kyle Field	008852	CHW	mBtu	1,091,696	1,220,959	3	M	M	M																										
367	Kyle Field	008856	HHW	mBtu	286,026	305,823	3	L	L	L																										
0325-0385	CE TTI Office & Lab Building	009122	ELE	kWh	NA	NA	29																													
0325-0385	CE TTI Office & Lab Building	009124	HHW	mBtu	NA	NA	29																													
386	Jack E. Brown Chemical Engineering Building	001428	ELE	kWh	110,510	156,811	9	M	M	M	M	M	M	M	M	M																				
386	Jack E. Brown Chemical Engineering Building	001429	ELE	kWh	228,402	333,162	9	M	M	M	M	M	M	M	M	M																				
386	Jack E. Brown Chemical Engineering Building	002250	CHW	mBtu	1,264,686	1,783,872	9	M	M	M	M	M	M	M	M	M																				
386	Jack E. Brown Chemical Engineering Building	006871	CHW	mBtu	55,605	100,695	9	M	M	M	M	M	M	M	M	M																				
386	Jack E. Brown Chemical Engineering Building	002254	HHW	mBtu	539,692	1,067,880	9	M	M	M	M	M	M	M	M	M																				
420	Milner Hall	009144	ELE	kWh	NA	21,472	29																													
454	MSC BOR	007420	ELE	kWh	NA	18,062	29	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
465	Butler Hall	003997	ELE	kWh	12,333	30,812	17	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M												
467	Biological Sciences Building - East	001543	ELE	kWh	176,632	*	1																										M			
468	Evans Library	000318	ELE	kWh	26,368	102,901	22	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M								
468	Evans Library	000320	ELE	kWh	27,659	85,174	20	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M									
468	Evans Library	006429	ELE	kWh	NA	94,747	29	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
468	Evans Library	003903	CHW	mBtu	46,195	203,733	22	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M								
468	Evans Library	003907	HHW	mBtu	10,106	52,754	22	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A								
469	Central Campus Parking Garage	000306	ELE	kWh	44,664	44,962	6			M																					M	M		M	M	M
472	Animal Industries	009042	ELE	kWh	39,168	45,744	4	A	A	A	A																									
481	Heaton Hall	005712	ELE	kWh	NA	***	29																													
484	Chemistry Building	007152	ELE	kWh	93,406	*	1																													
484	Chemistry Building	007556	ELE	kWh	NA	15,438	29	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
484	Chemistry Building	007557	ELE	kWh	NA	120,584	29	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
484	Chemistry Building	007559	ELE	kWh	NA	164,773	29	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
501	Concrete Materials Laboratory	005791	ELE	kWh	NA	5,177	29	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
506	Nagle Hall	001484	ELE	kWh	3,299	12,990	22	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M								
513	Doherty Building	000299	ELE	kWh	14,318	54,032	22	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M								
524	Blocker building	001545	ELE	kWh	192,772	212,692	3	M	M	M																										
549	Haas Residence Hall	001398	ELE	kWh	43,759	*	15	A	A	A	A		A	A	A						A	A		A						A		A	A	A	A
1026	Veterinary Medicine Administration	006053	HHW	mBtu	NA	621,484	29	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
1042	Forest Science Laboratory Building	006036	ELE	kWh	21,223	21,957	17																													
1184	Veterinary Anatomic Pathology	001445	ELE	kWh	NA	51,431	29	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
1454	University Apartments - The Gardens F	006980	ELE	kWh	NA	21,440	29	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
1455	University Apartments - The Gardens G	006882	ELE	kWh	NA	19,177	29	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
1505	Rosenthal Meat Science & Technology Center	003627	ELE	kWh	108,412	119,979	3	M	M	M																										
1520	TX School of Rural Public Health C	005275	ELE	kWh	46,121	**	3					M								M				M											
1525	Nuclear Magnetic Resonance Facility	006718	ELE	kWh	81,828	*	3					M									M			M											
1530	Interdisciplinary Life Sciences Building	006288	ELE	kWh	214,240	*	1																											M		
1590	White Creek Apartment 1	008518	CHW	mBtu	256,148	*	2																													
1590	White Creek Apartment 1	008522	HHW	mBtu	98,724	*	2																													
1591	White Creek Apartment 2	008529	CHW	mBtu	235,307	*	1																													
1591	White Creek Apartment 2	008533	HHW	mBtu	110,618	*	1																													
1607	Allen Building	000243	ELE	kWh	90,988	*	3															M	M	M												
1609	TTI Headquarters	006495	ELE	kWh	54,665	*	2									M	M																			
1810	Office of the State Chemist Building	009073	ELE	kWh	57,586,771	**	1																													
1911	Multi-Species Research Building	009138	ELE	kWh	NA	NA	29																													
10226	NCTM Manufacturing Building	007652	ELE	kWh	NA	NA	29																													

* Monthly consumption evaluated from the cumulative data is not affected by the missing data.
** See Table II-2 for the estimated consumption.
*** Consumption is not estiamted because reliable consumtpion model is not available.
NA: Not available

II-2 Meters with Estimated Consumption for Problematic Data

During the month of February 2016, 28 meters in 25 buildings have estimated daily consumption because the recorded consumption is found to be problematic or questionable. For each of these meters, alternative consumption has been estimated using the best possible method. Table II-2 lists these meters with indications of the days with estimated data. Detailed descriptions for individual cases follow.

Table II-2 Meters with problematic data during February 2016

Building No.	Building Name /MeterID(s)	Type	Unit	Original Monthly Consumption	Estimated Monthly Consumption	# of days	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29
405	Lacy Hall – Dorm 6																																		
	007918	CHW	mBtu	238,804	155,440	3										L	L	L																	
420	Milner Hall																																		
	009145	CHW	mBtu	163,993	185,335	3																											M	M	M
441	Krueger Residence Hall																																		
	002504	CHW	mBtu	718,783	829,647	7						L	L	L	L	L	L	L																	
442	Dunn Residence Hall																																		
	002515	HHW	mBtu	417,259	479,659	5	M	M	M	M	M																								
447	Aston Residence Hall																																		
	002470	HHW	mBtu	534,225	631,501	5	M	M	M	M	M																								
445	Teague Research Center																																		
	006415	HHW	mBtu	29,337	44,953	14															M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
517	DPC Annex																																		
	006567	HHW	mBtu	218,250	420,206	14															M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
457	TAES Annex Building																																		
	005917	HHW	mBtu	19,688	37,020	14															M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
480	Bolton Hall																																		
	007016	HHW	mBtu	20,992	47,698	19											M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
499	Engineering Innovation Center																																		
	002683	HHW	mBtu	36,225	40,761	7														L	L	L	L	L	L	L									
0508-1026	Veterinary Teaching Hospital and Veterinary Medicine Administration																																		
	004170	HHW	mBtu	680,547	1,073,877	29	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
520	Beutel Health Center																																		
	003933	CHW	mBtu	267,964	464,047	29	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
	003944	HHW	mBtu	113,543	265,038	29	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
740	McNew Laboratory																																		
	005968	HHW	mBtu	16,116	170,349	29	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
1020	Vivarium III																																		
	005997	CHW	mBtu	274,962	164,997	29	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
	006001	HHW	mBtu	3,667	120,103	29	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
1085	Veterinary Small Animal Hospital																																		
	003660	HHW	mBtu	429,449	538,824	12													M	M	M	M	M	M	M	M	M	M	M						
1146	Biological Control Facility																																		
	005887	CHW	mBtu	626,593	128,575	14															M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
1156	Physical Plant Administration & Shops																																		
	007679	CHW	mBtu	360,856	104,907	12	M	M	M	M	M	M	M	M	M	M	M	M																	
1509	Medical Sciences Library																																		
	003781	HHW	mBtu	107,143	238,863	29	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
1512	Southern Crop Improvement Greenhouse																																		
	005931	ELE	kWh	148,793	83,073	29	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
1519	TX School of Rural Public Health B																																		
	005274	ELE	kWh	96,953	46,121	29	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
1520	TX School of Rural Public Health C																																		
	005275	ELE	kWh	46,121	96,953	29	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
1554	Reed Arena																																		
	006243	ELE	kWh	14	561	29	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
1559	West Campus Parking Garage																																		
	004327	HHW	mBtu	14,198	24,002	11																			M	M	M	M	M	M	M	M	M	M	M
1810	Office of the State Chemist Building																																		
	009073	ELE	kWh	**	57,587	29	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
1900	Texas Institute for Genomic Medicine																																		
	005546	HHW	mBtu	273,958	346,773	5	M	M	M	M	M																								
1904	Texas A&M Institute for Preclinical Studies A																																		
	006366	HHW	mBtu	709,129	864,688	5	M	M	M	M	M																								

NA: Not available

** See Table II-1 for the original consumption.

Notes: The colored cells means the consumption for the day appears to be problematic. The letter in the colored cell indicates the method for estimation. M: model, F: multiplication factor, L: linear interpolation, A: average, and C: correction of the reset cumulative reading

Lacy Hall – Dorm 6 (TAMU Bldg# 405)

Estimated data

Energy Type	Meter ID	Number of Days	Period	Estimation Method
CHW	007918	3	2/10/2016 – 2/12/2016	Linear interpolation

Detected issues in the energy balance and/or the consumption data

Data Type	Description of data behaviors	Period
CHW	The consumption increased for a short period.	2/10/2016 – 2/12/2016

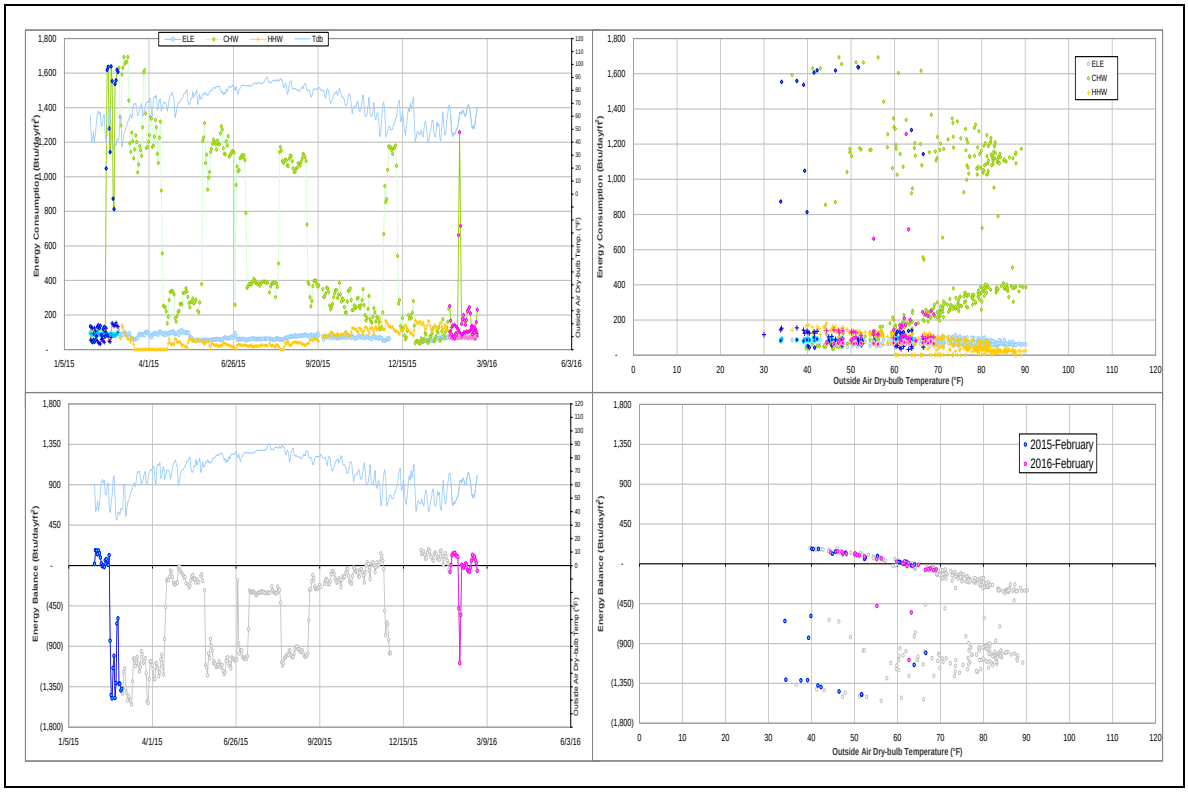
Changes in sensor readings related to the detected issues

Energy Type	Meter ID	Period	Type	Description
CHW	002218	2/10/2016 – 2/12/2016	Flow Rate	Increased

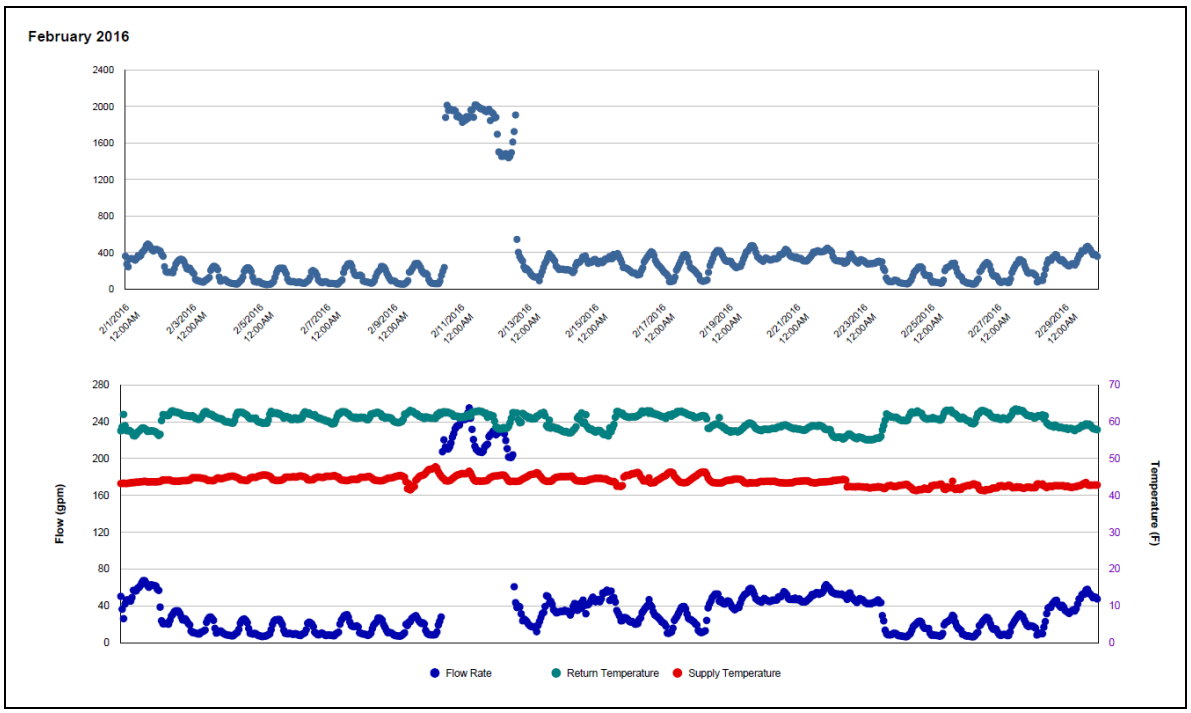
Quantitative descriptions and comments

The CHW consumption suddenly increased during 2/10/2016-2/12/2016, as the CHW flow rate increased by 200 gpm. The consumption was estimated by linear interpolation.

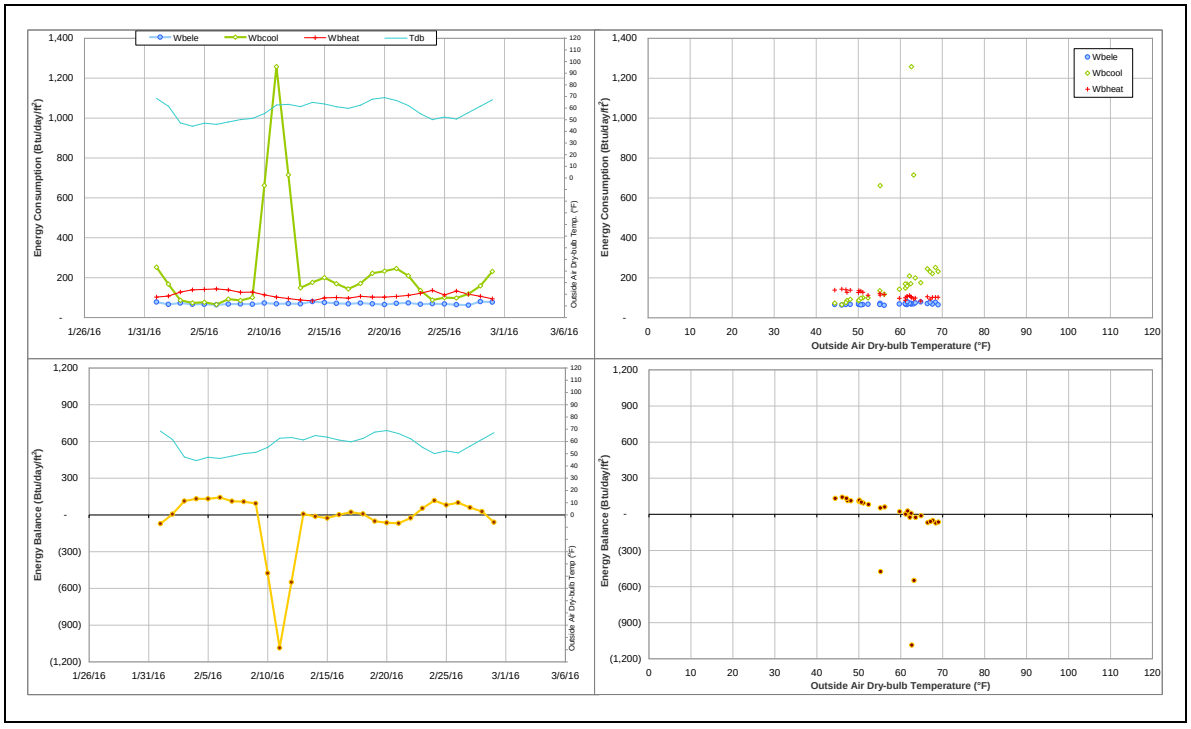
Explanatory Figure: 13 months energy balance plot with original data



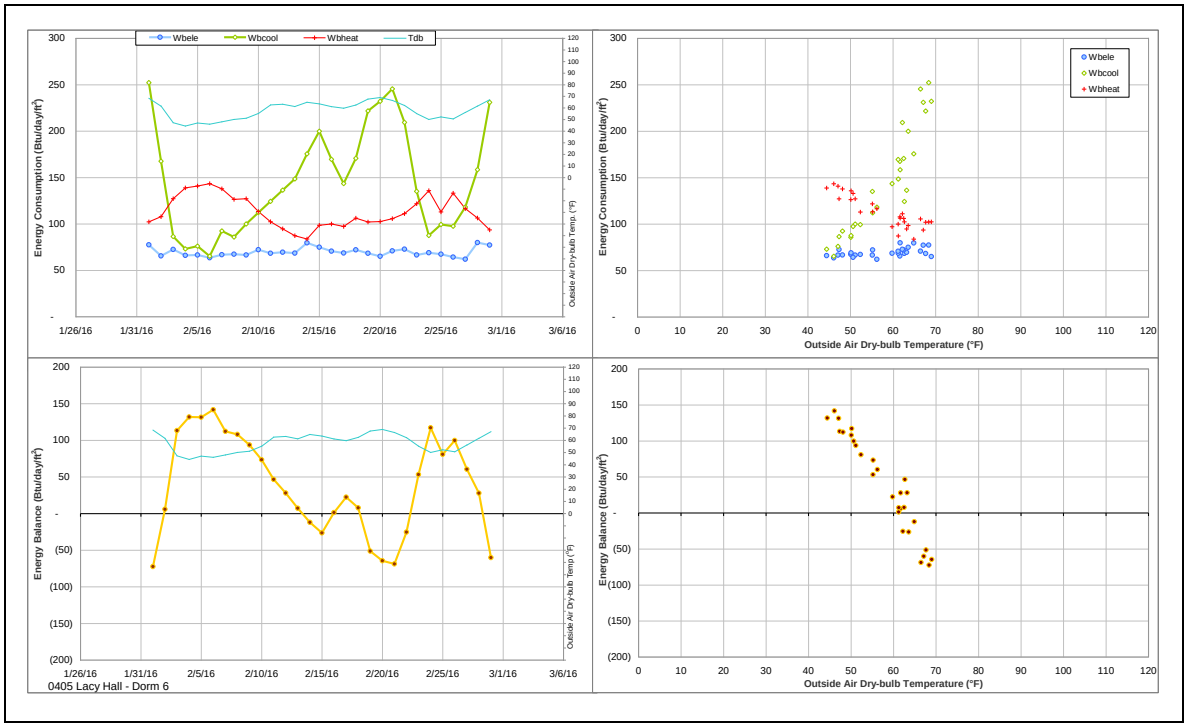
Explanatory Figure: Time series plots of hourly energy consumption, flow rate, and supply and return temperatures from the utilities office. (CHW meter during February 2016)



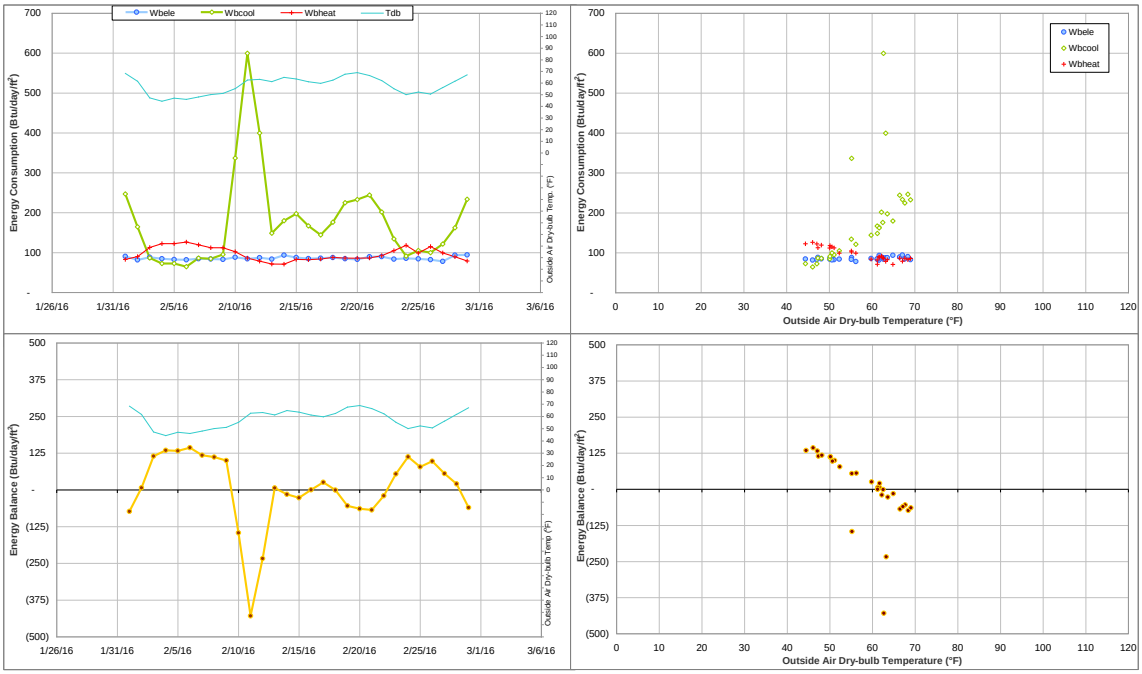
Energy balance plot using the original data for the month of analysis for Lacy Hall. Missing data have been filled in, if any.



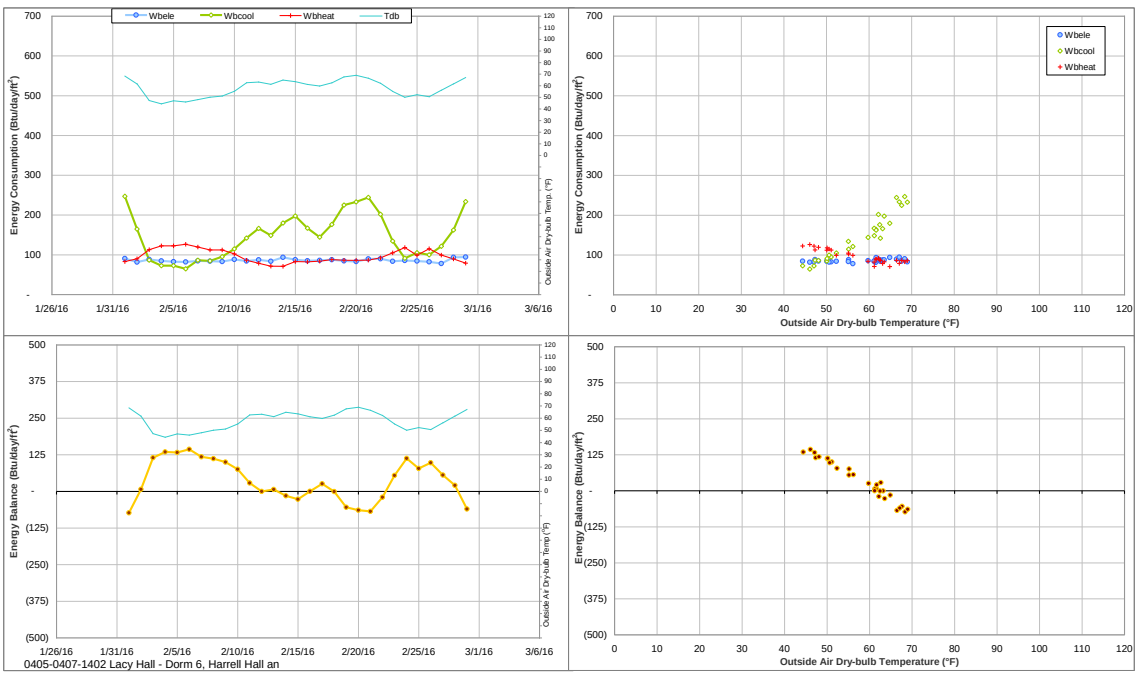
Energy balance plot using the estimated data for the month of analysis for Lacy Hall.



Energy balance plot using the original data for the month of analysis for Lacy Hall, Harrell Hall and Leadership Learning Center. Missing data have been filled in, if any.



Energy balance plot using the estimated data for the month of analysis for Lacy Hall, Harrell Hall and Leadership Learning Center.



Milner Hall (TAMU Bldg# 420)

Estimated data

Energy Type	Meter ID	Number of Days	Period	Estimation Method
CHW	009145	3	2/27/2016 – 2/29/2016	Model

Detected issues in the energy balance and/or the consumption data

Data Type	Description of data behaviors	Period
CHW	The consumption level has decreased suddenly.	2/27/2016 – ongoing

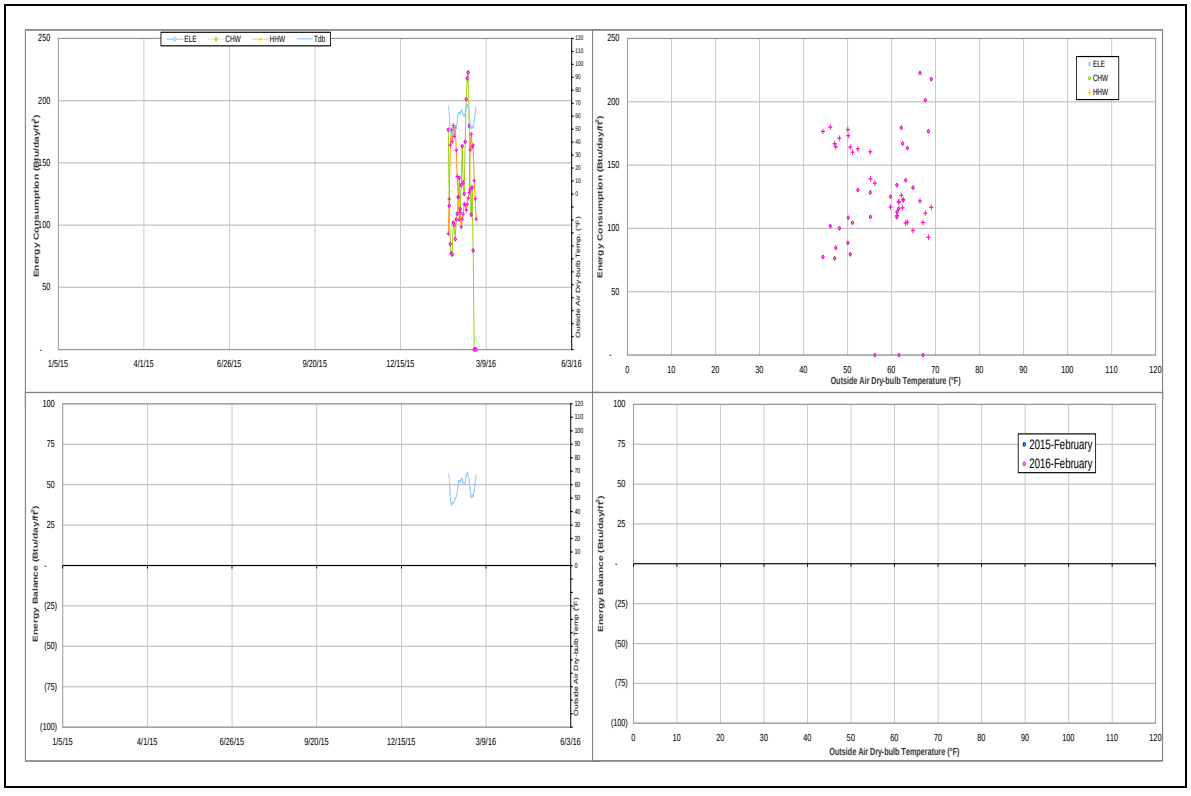
Changes in sensor readings related to the detected issues

Energy Type	Meter ID	Period	Type	Description
CHW	009145	2/27/2016 – ongoing	Flow Rate	zero

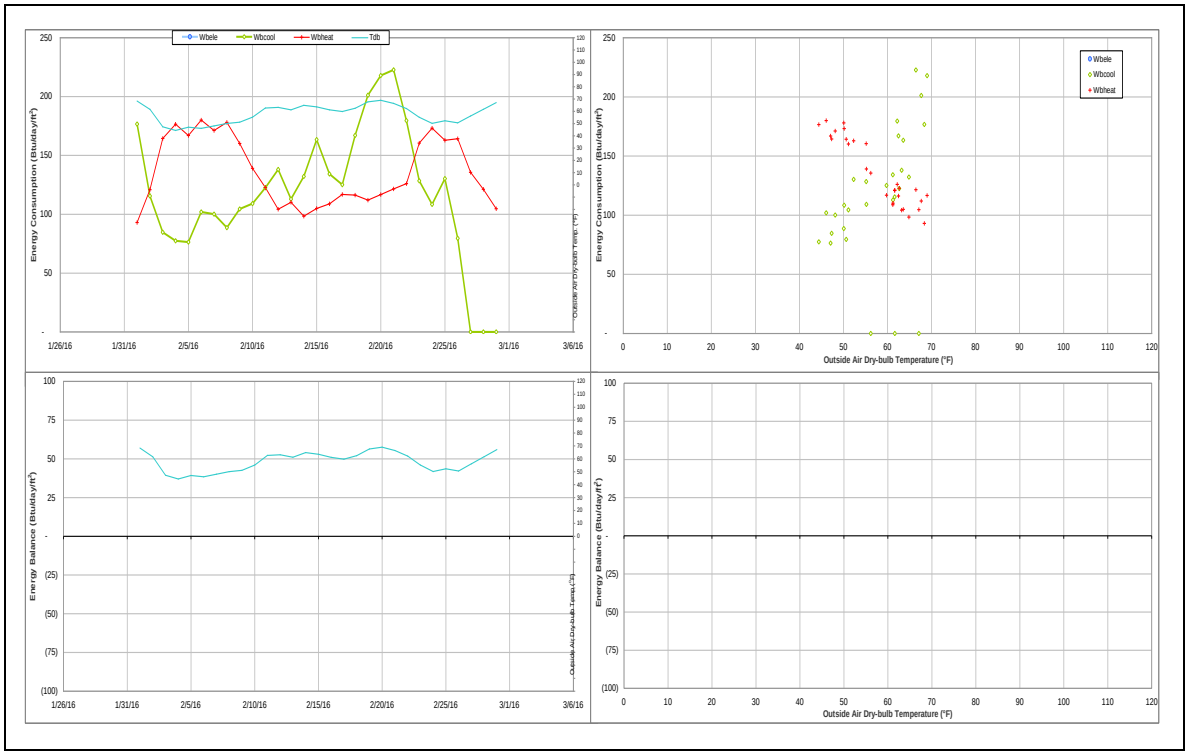
Quantitative descriptions and comments

The CHW consumption decreased to zero since 2/27/2016 due to zero reading of flow rate. The consumption was estimated by a temporary model.

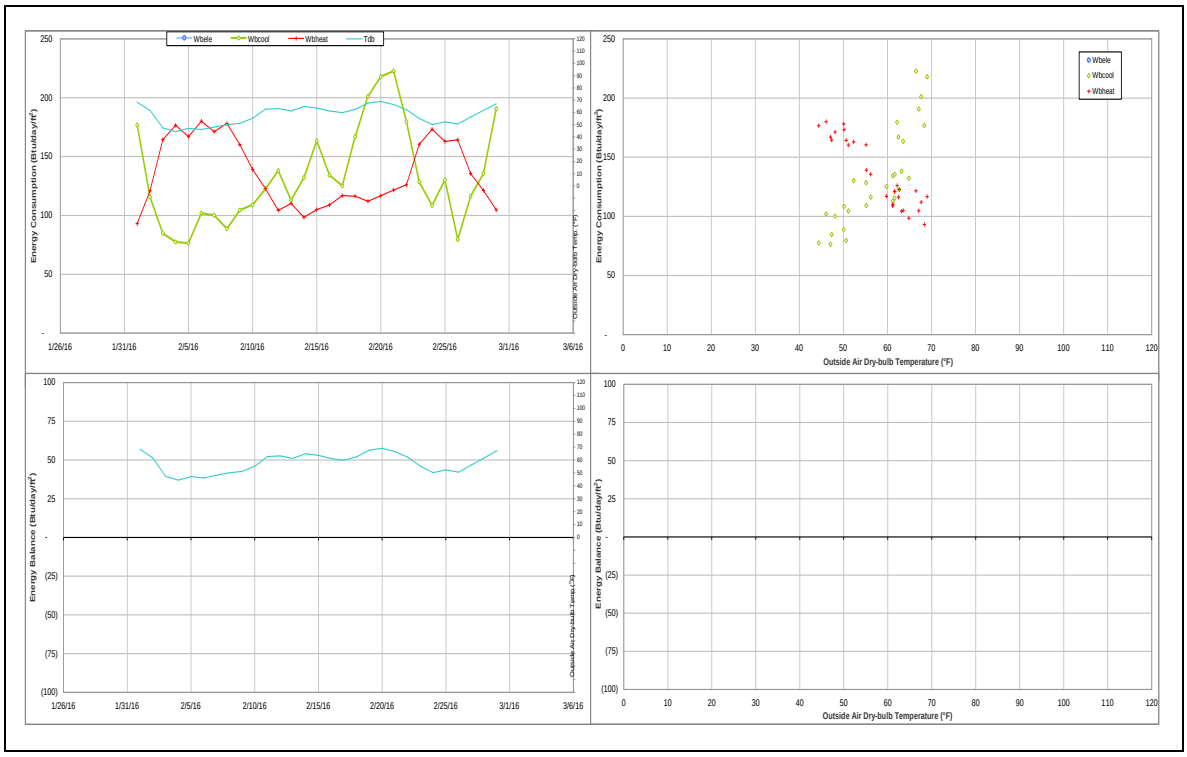
Explanatory Figure: 13 months energy balance plot with original data



Energy balance plot using the original data for the month of analysis. Missing data have been filled in, if any.



Energy balance plot using the estimated data for the month of analysis.



Krueger Residence Hall (TAMU Bldg# 441)

Estimated data

Energy Type	Meter ID	Number of Days	Period	Estimation Method
CHW	002504	7	2/6/2016 – 2/12/2016	Linear interpolation

Detected issues in the energy balance and/or the consumption data

Data Type	Description of data behaviors	Period
CHW	The consumption dropped for a short period.	2/6/2016 – 2/12/2016

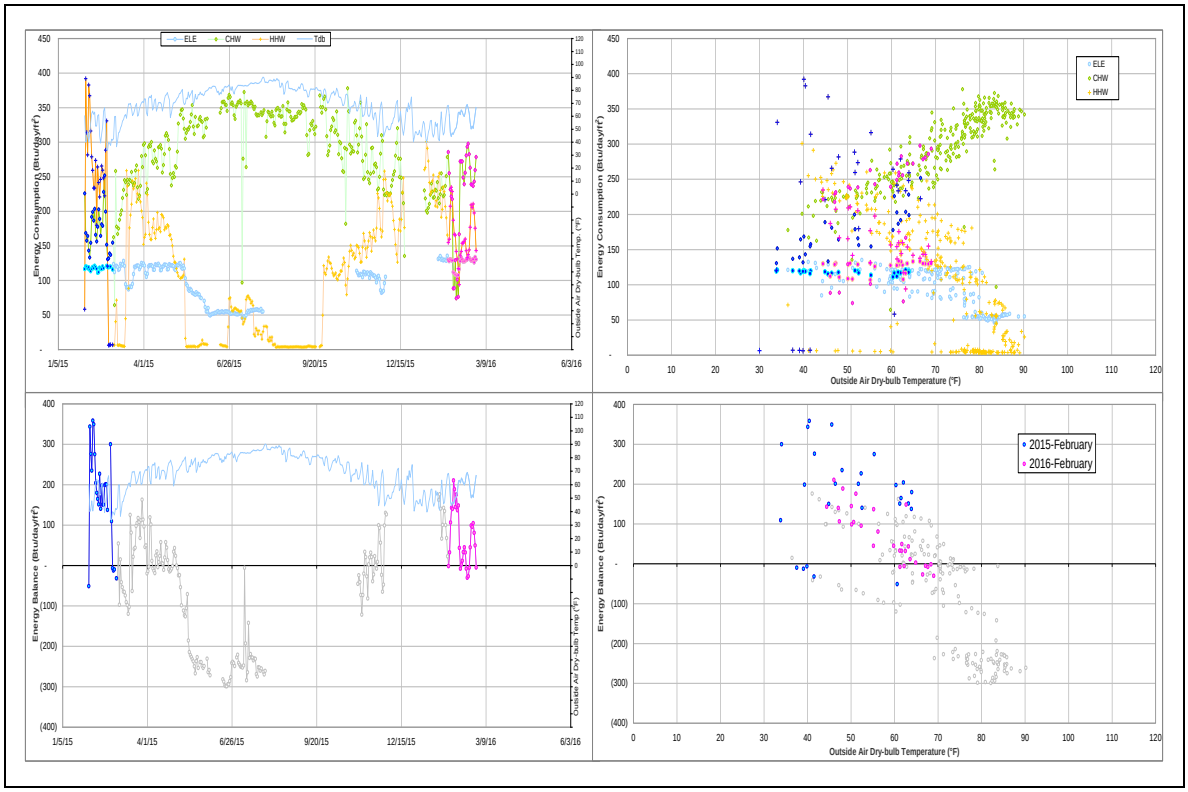
Changes in sensor readings related to the detected issues

Energy Type	Meter ID	Period	Type	Description
CHW	002504	2/6/2016 – 2/12/2016	Flow Rate	Decreased

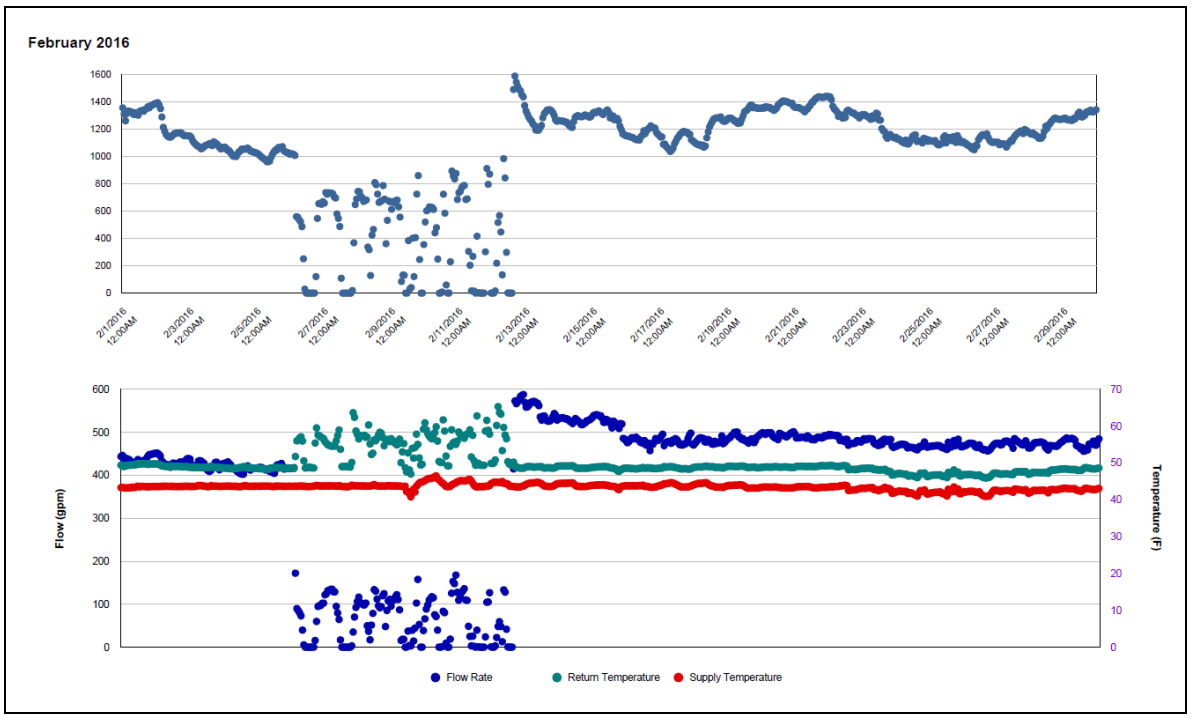
Quantitative descriptions and comments

The CHW consumption suddenly decreased during 2/6/2016-2/12/2016, as the CHW flow rate decreased by 350 gpm. The consumption was estimated by linear interpolation.

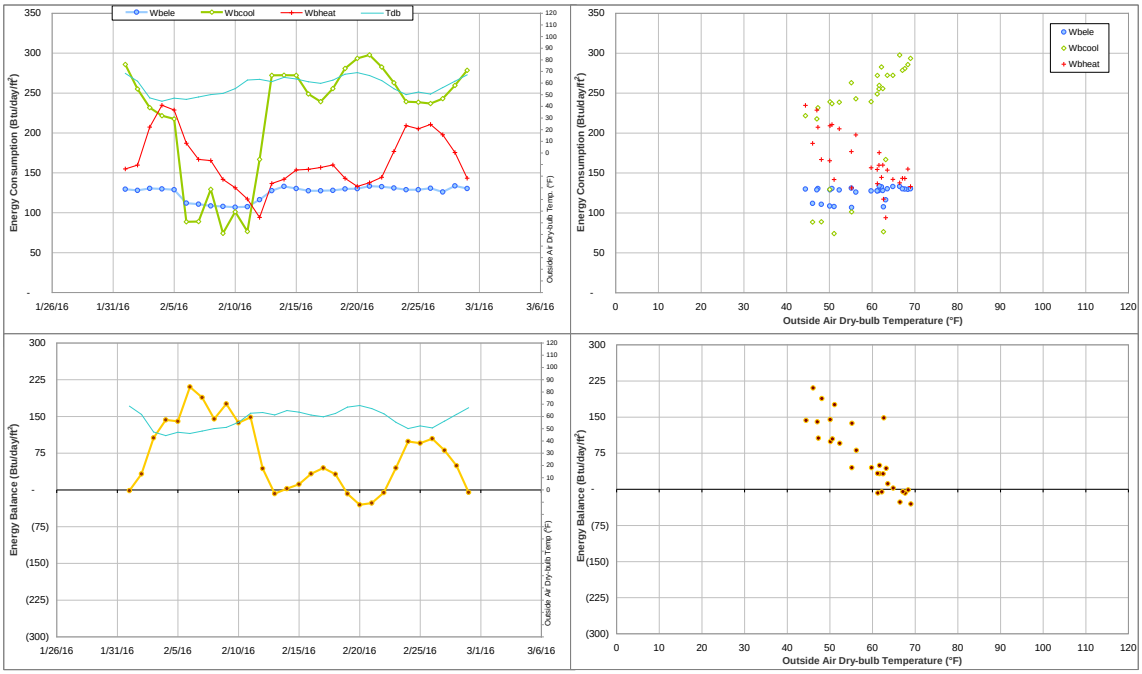
Explanatory Figure: 13 months energy balance plot with original data



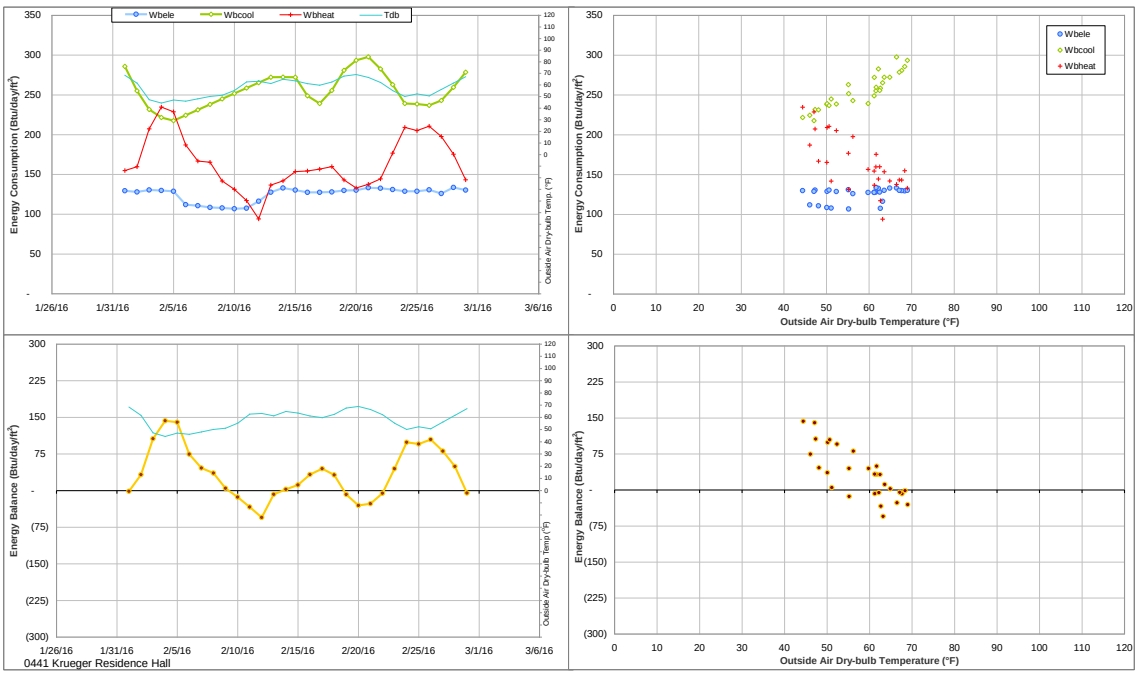
Explanatory Figure: Time series plots of hourly energy consumption, flow rate, and supply and return temperatures from the utilities office. (CHW meter during February 2016)



Energy balance plot using the original data for the month of analysis. Missing data have been filled in, if any.



Energy balance plot using the estimated data for the month of analysis.



Dunn Residence Hall (TAMU Bldg #442)

Estimated data

Energy Type	Meter ID	Number of Days	Period	Estimation Method
HHW	002515	5	2/1/2016 – 2/5/2016	Model

Detected issues in the energy balance and/or the consumption data

Data Type	Description of data behaviors	Period
HHW	The consumption level is lower than the level during the past year.	8/12/2015 – 2/5/2016

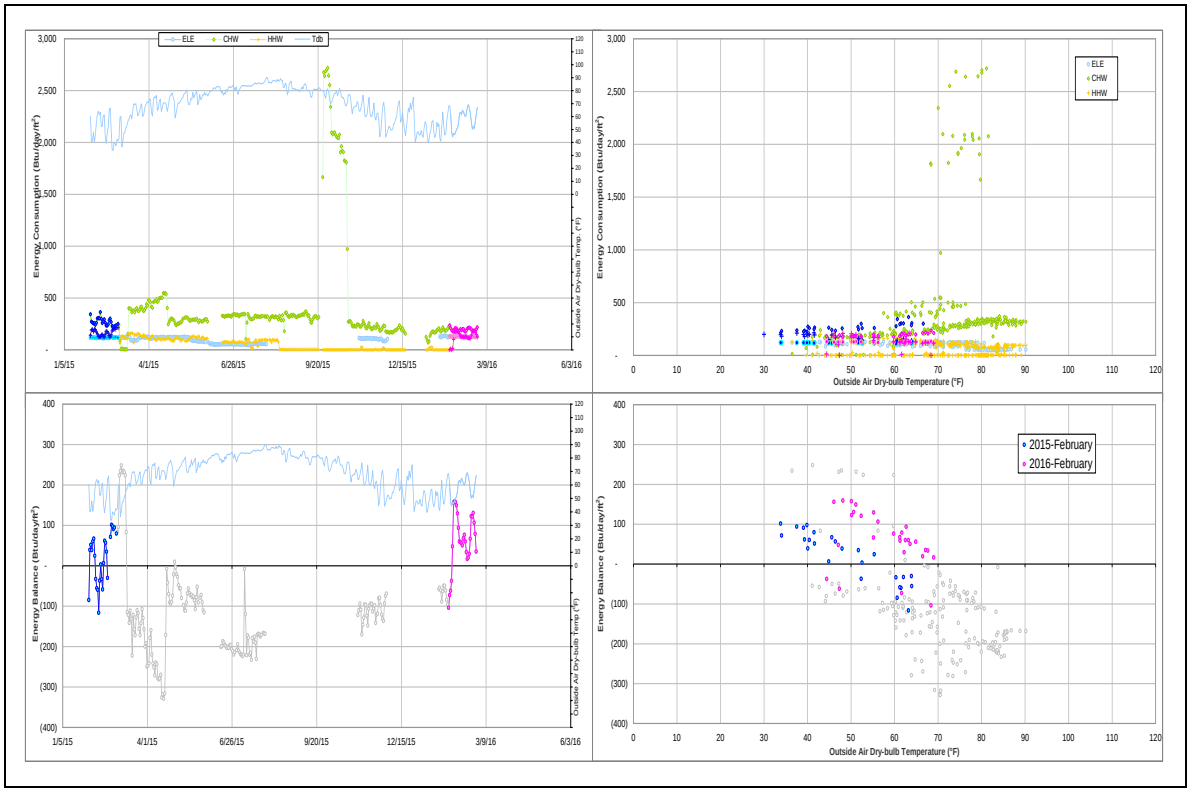
Changes in sensor readings related to the detected issues

Energy Type	Meter ID	Period	Type	Description
HHW	002515	11/5/2015 – 2/5/2016	Delta T	Negative

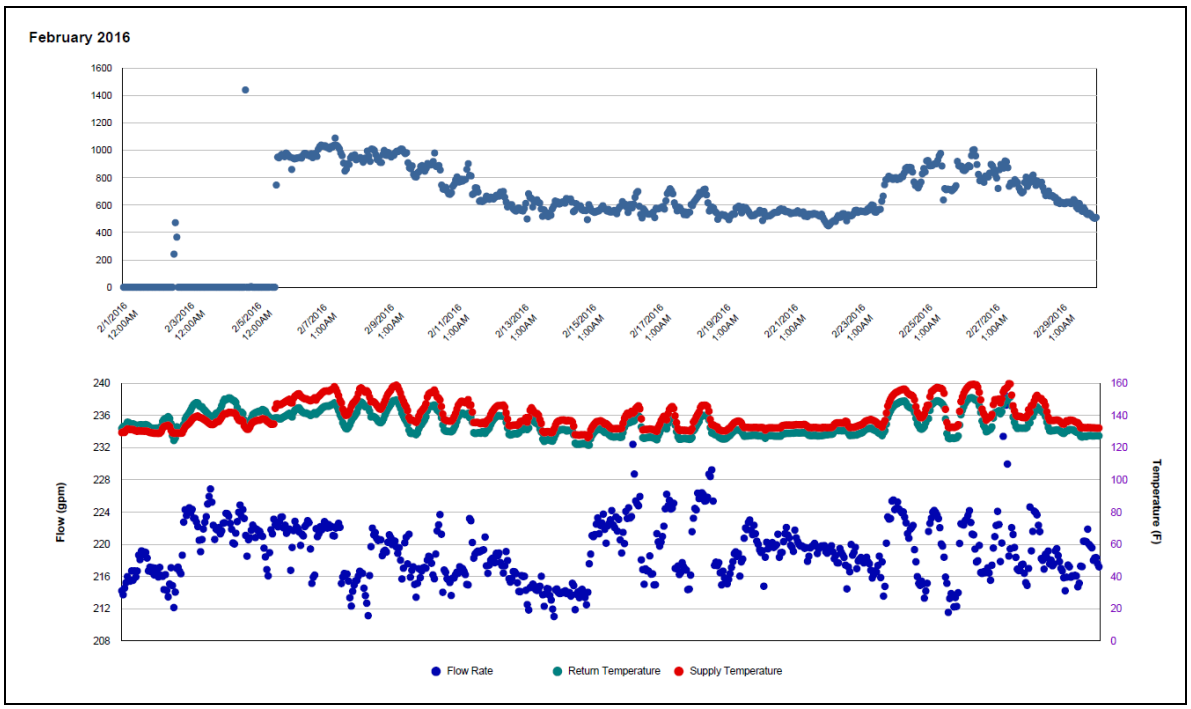
Quantitative descriptions and comments

The HHW consumption was very low (nearly zero) since 8/12/2015, due to either low flow rate or faulty delta T. During 11/5/2015-2/5/2016, the supply temperature was lower than the return temperature most time. On 2/6/2016, the problem of negative delta T was fixed. The consumption was estimated by a model.

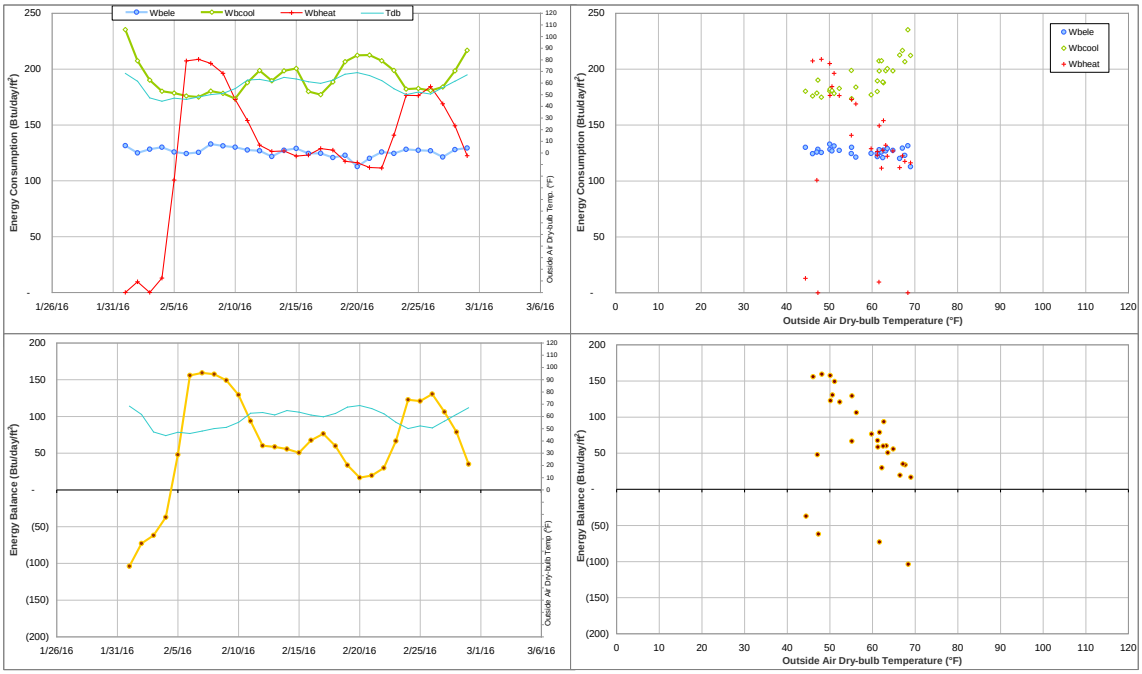
Explanatory Figure: 13 months energy balance plot with original data.



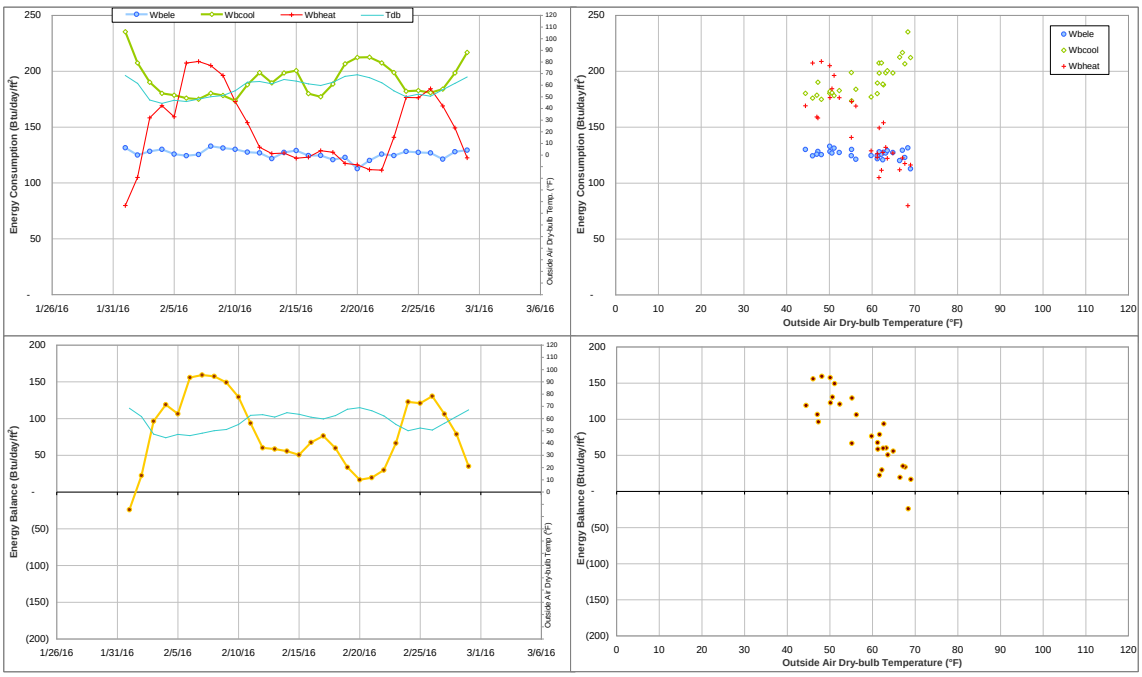
Explanatory Figure: Time series plots of hourly energy consumption, flow rate, and supply and return temperatures from the utilities office. (HHW meter during February 2016)



Energy balance plot using the original data for the month of analysis. Missing data have been filled in, if any.



Energy balance plot using the estimated data for the month of analysis.



Aston Residence Hall (TAMU Bldg #447)

Estimated data

Energy Type	Meter ID	Number of Days	Period	Estimation Method
HHW	002470	5	2/1/2016 – 2/5/2016	Model

Detected issues in the energy balance and/or the consumption data

Data Type	Description of data behaviors	Period
HHW	The consumption level has decreased suddenly.	9/25/2015 – 2/5/2016

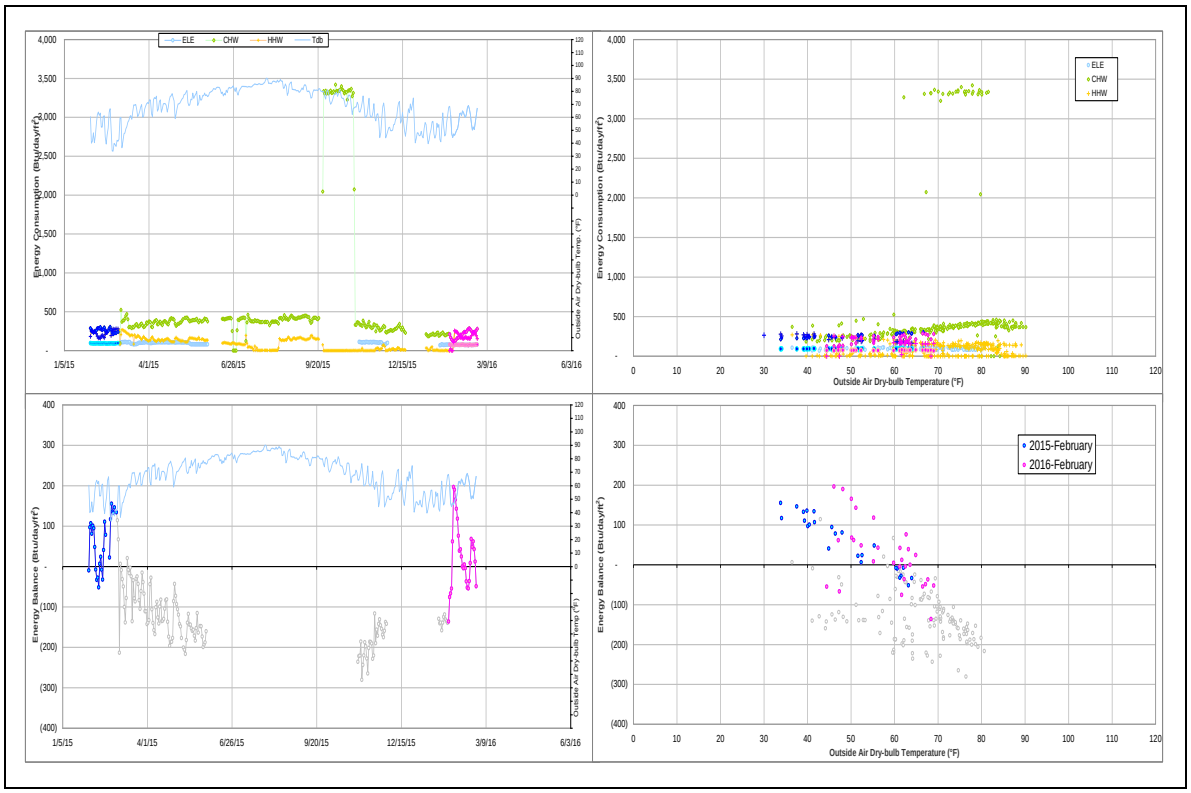
Changes in sensor readings related to the detected issues

Energy Type	Meter ID	Period	Type	Description
HHW	002470	10/20/2015 – 2/5/2016	Delta T	Negative

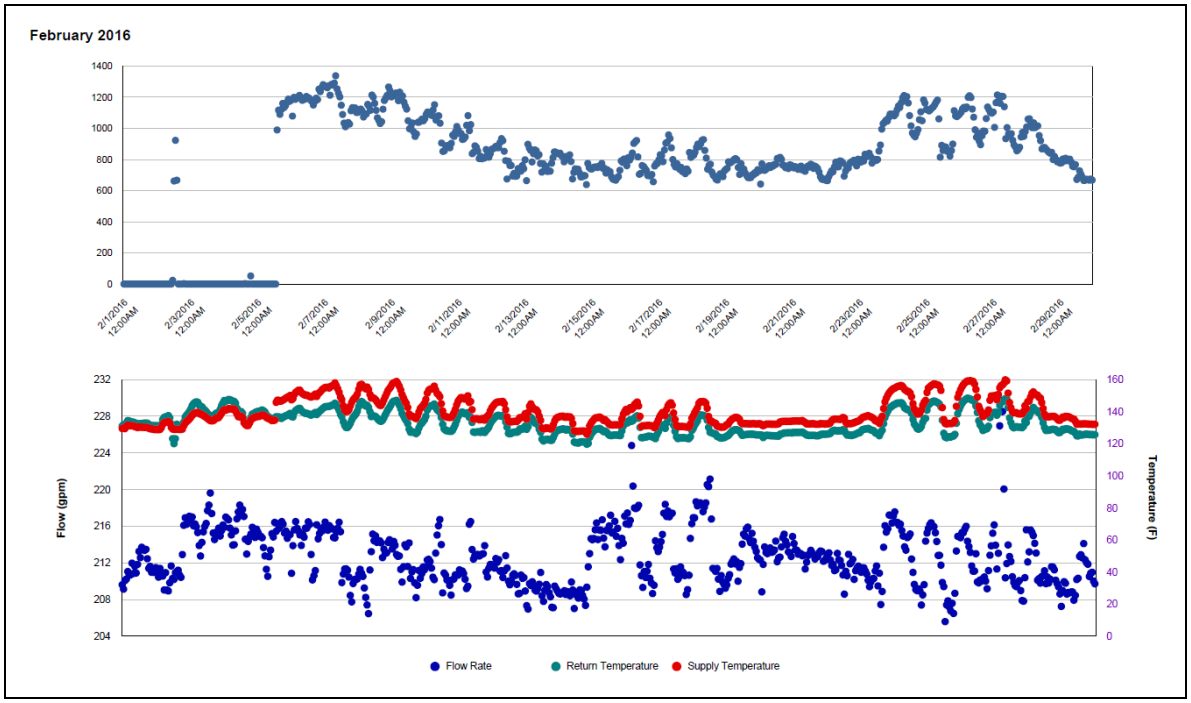
Quantitative descriptions and comments

The HHW consumption suddenly dropped to zero since 9/25/2015, as the supply temperature reading was constant during 9/25/2015-10/19/2015 and the delta T was frequently negative during 10/20/2015-2/5/2016. On 2/6/2016, the problem of negative delta T was fixed. The consumption was estimated by a model.

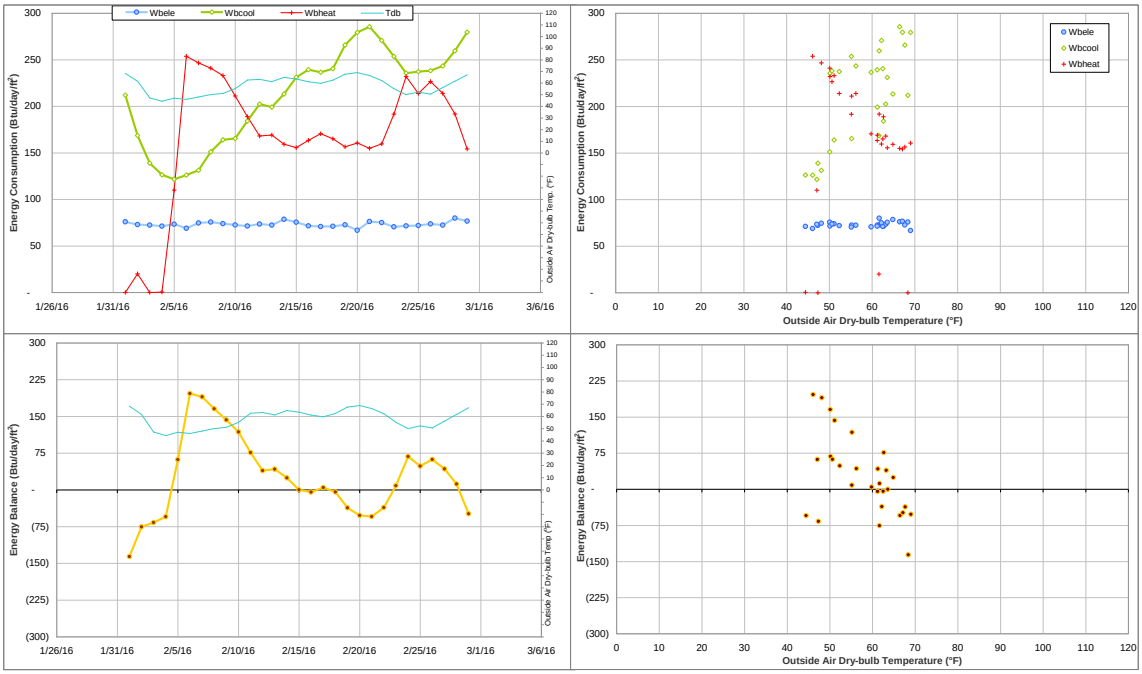
Explanatory Figure: 13 months energy balance plot with original data.



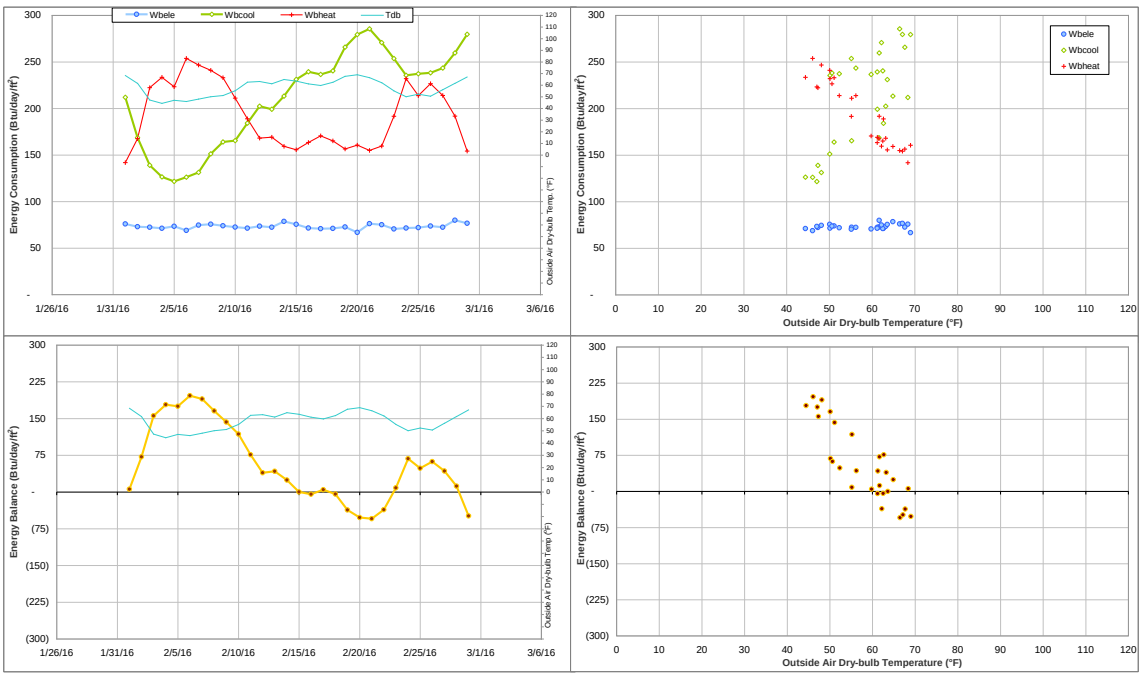
Explanatory Figure: Time series plots of hourly energy consumption, flow rate, and supply and return temperatures from the utilities office. (HHW meter during February 2016)



Energy balance plot using the original data for the month of analysis. Missing data have been filled in, if any.



Energy balance plot using the estimated data for the month of analysis.



Teague Research Center (TAMU Bldg #445)

Estimated data

Energy Type	Meter ID	Number of Days	Period	Estimation Method
HHW	006415	14	2/16/2016 – 2/29/2016	Model

Detected issues in the energy balance and/or the consumption data

Data Type	Description of data behaviors	Period
HHW	The consumption level has decreased suddenly.	2/16/2016 – 2/29/2016

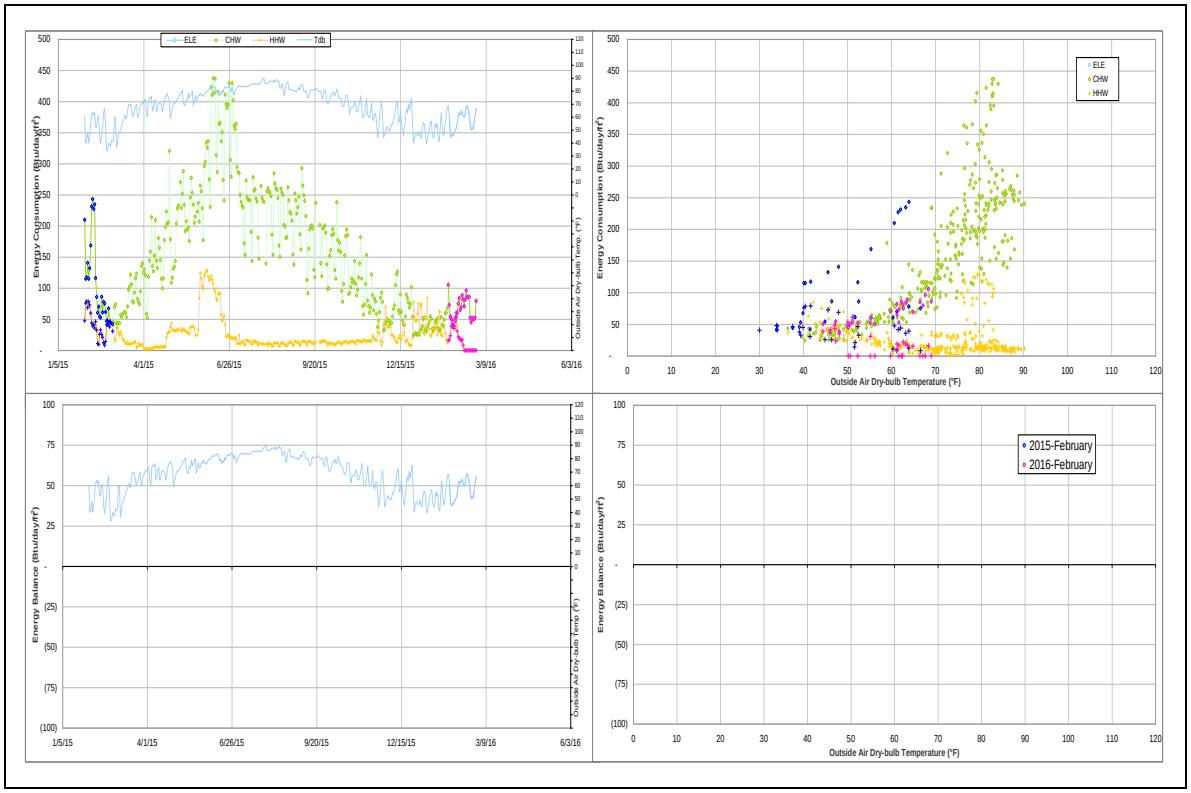
Changes in sensor readings related to the detected issues

Energy Type	Meter ID	Period	Type	Description
HHW	006415	2/16/2016 – 2/29/2016	Flow	Zero

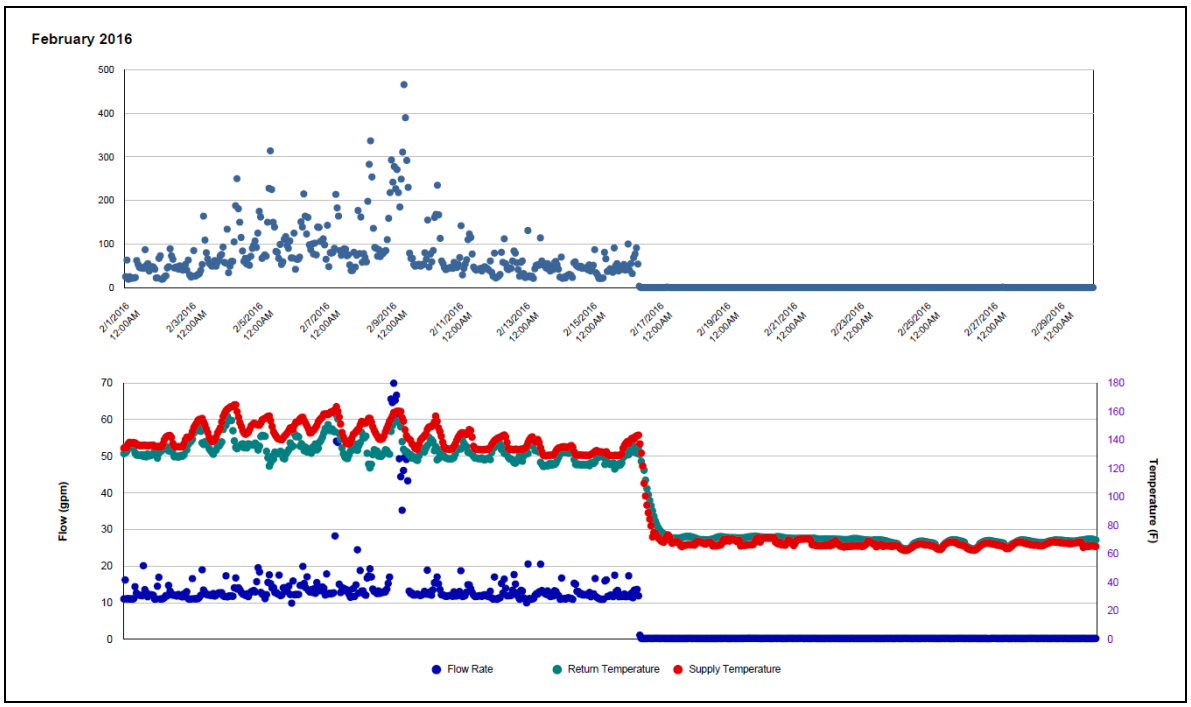
Quantitative descriptions and comments

The HHW consumption decreased to nearly zero since 2/16/2016, as the HHW flow rate decreased to zero. The consumption was estimated by a model.

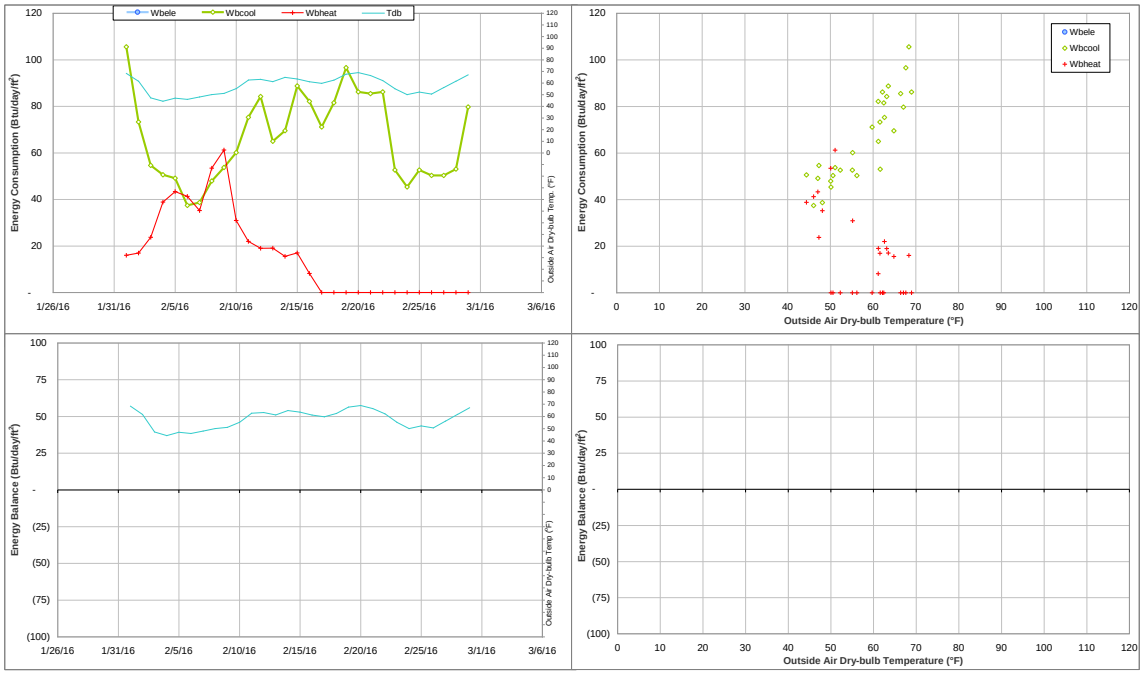
Explanatory Figure: 13 months energy balance plot with original data.



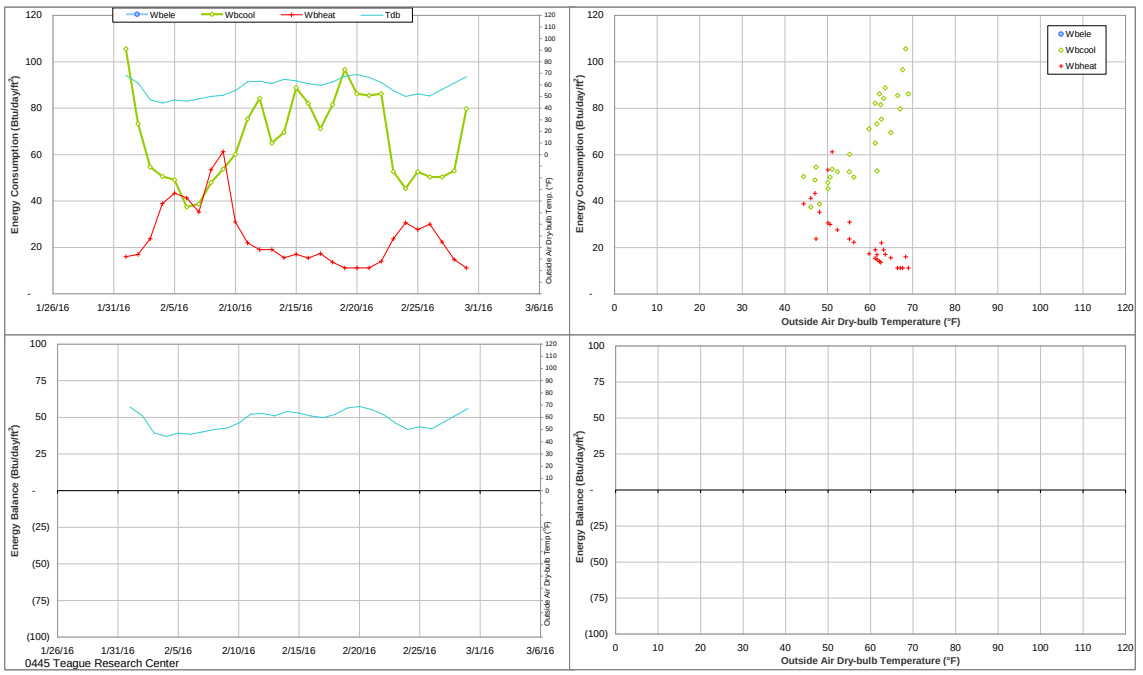
Explanatory Figure: Time series plots of hourly energy consumption, flow rate, and supply and return temperatures from the utilities office. (HHW meter during February 2016)



Energy balance plot using the original data for the month of analysis. Missing data have been filled in, if any.



Energy balance plot using the estimated data for the month of analysis.



DPC Annex (TAMU Bldg #517)

Estimated data

Energy Type	Meter ID	Number of Days	Period	Estimation Method
HHW	006567	14	2/16/2016 – 2/29/2016	Model

Detected issues in the energy balance and/or the consumption data

Data Type	Description of data behaviors	Period
HHW	The consumption level has decreased suddenly.	2/16/2016 – 2/29/2016

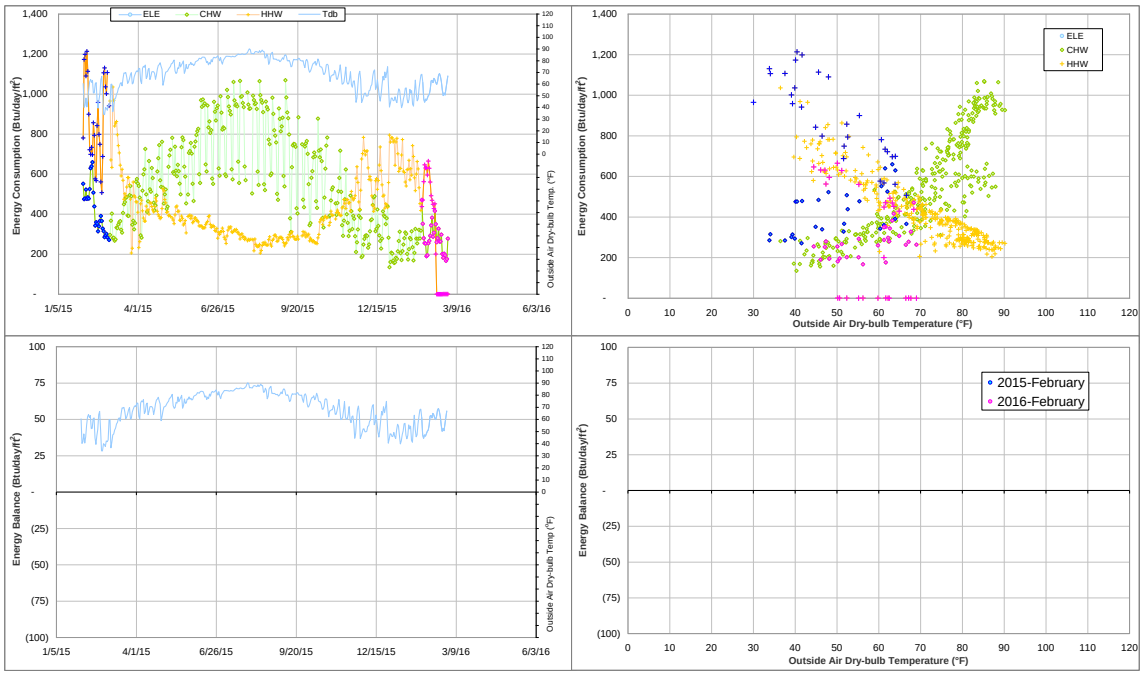
Changes in sensor readings related to the detected issues

Energy Type	Meter ID	Period	Type	Description
HHW	006567	2/16/2016 – 2/29/2016	Flow	Zero

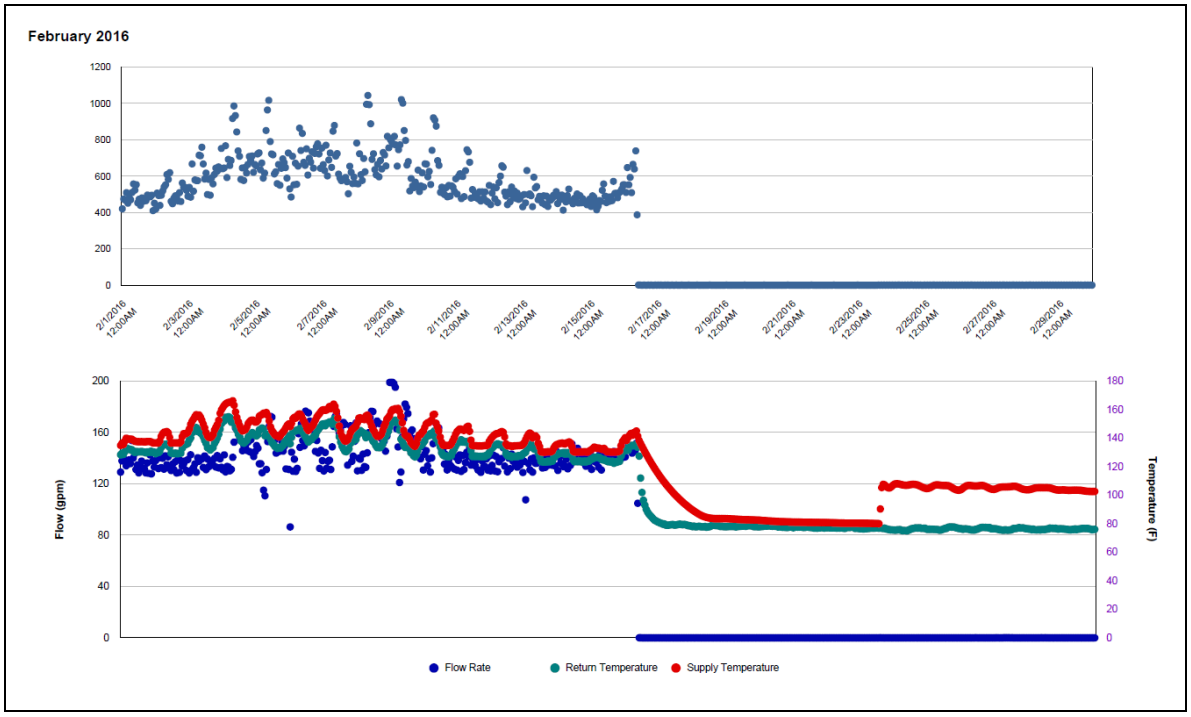
Quantitative descriptions and comments

The HHW consumption decreased to nearly zero since 2/16/2016, as the HHW flow rate decreased to zero. The consumption was estimated by a model.

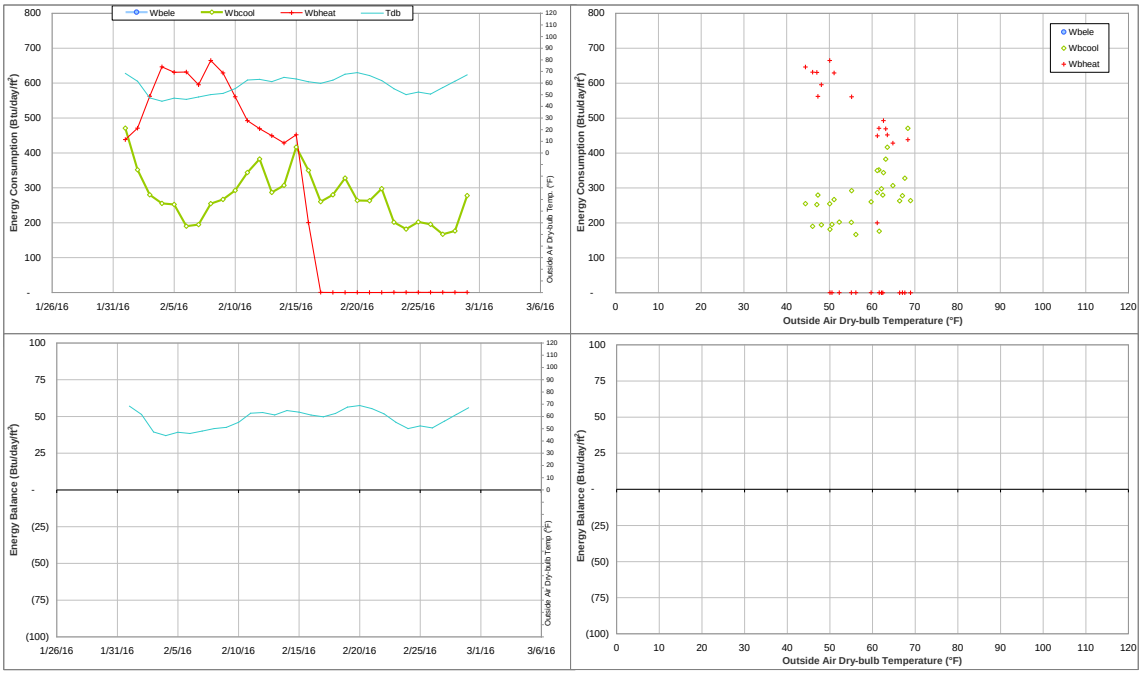
Explanatory Figure: 13 months energy balance plot with original data.



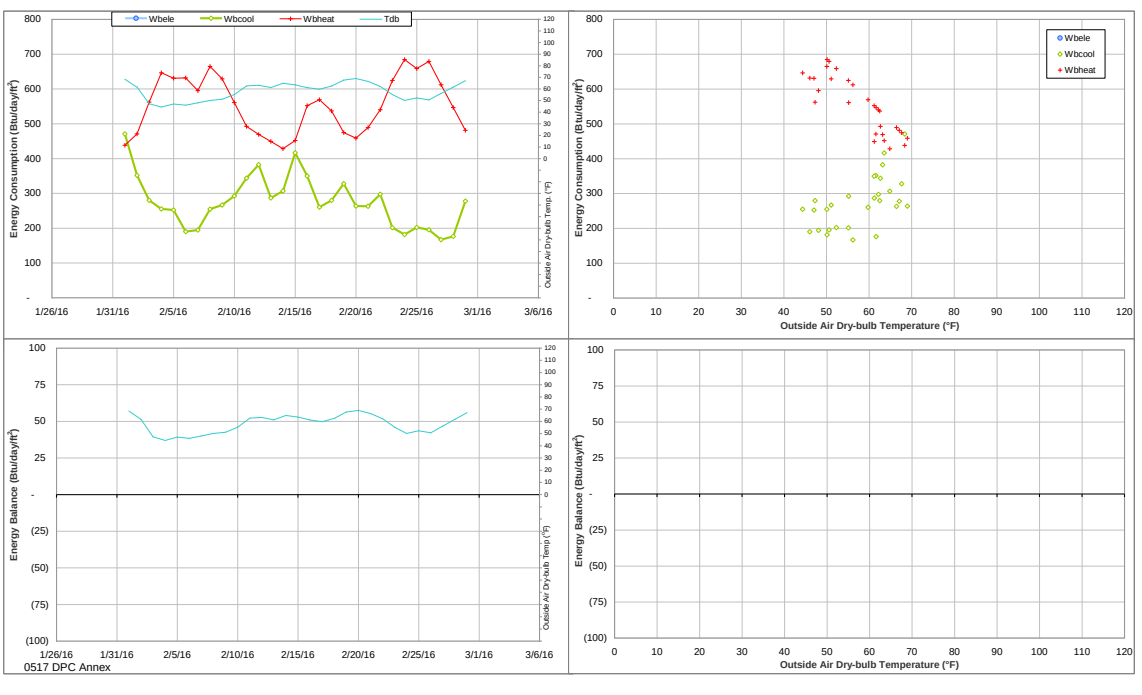
Explanatory Figure: Time series plots of hourly energy consumption, flow rate, and supply and return temperatures from the utilities office. (HHW meter during February 2016)



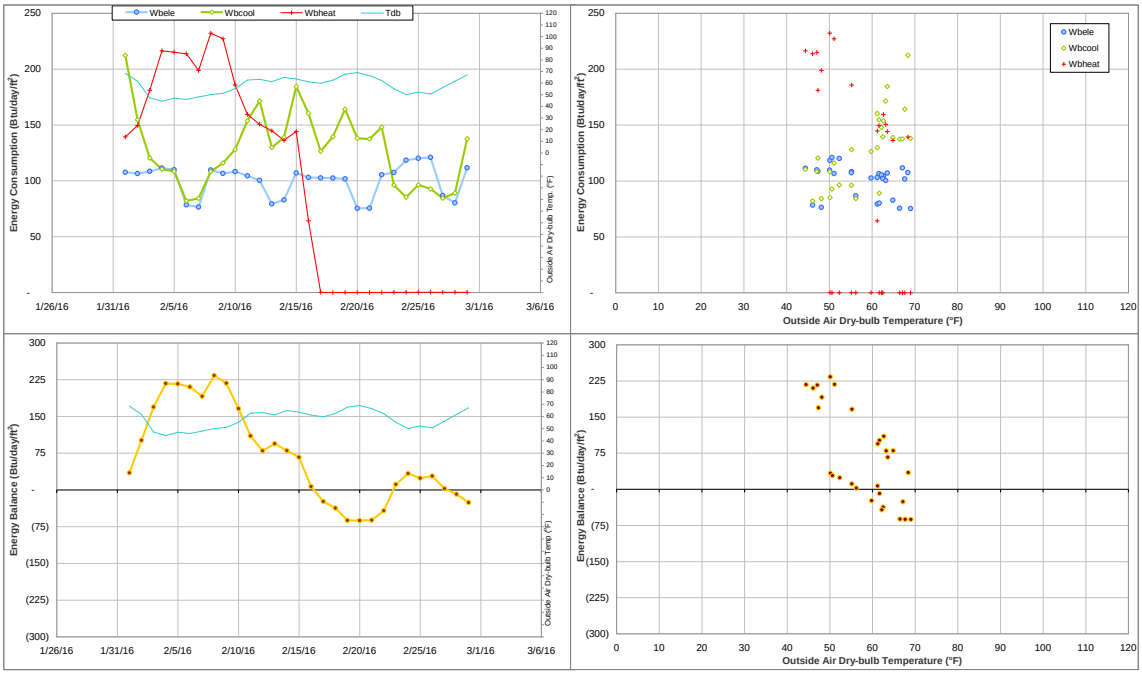
Energy balance plot using the original data for the month of analysis for DPC Annex. Missing data have been filled in, if any.



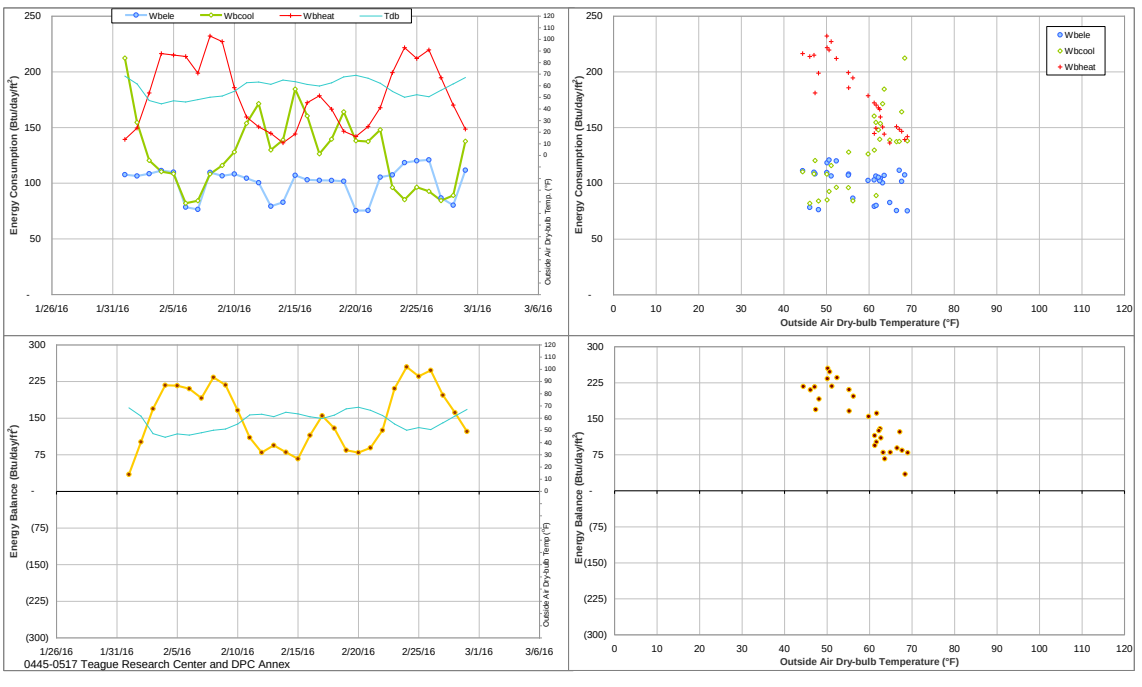
Energy balance plot using the estimated data for the month of analysis for DPC Annex.



Energy balance plot using the original data for the month of analysis for Teague Research Center and DPC Annex. Missing data have been filled in, if any.



Energy balance plot using the estimated data for the month of analysis for Teague Research Center and DPC Annex.



TAES Annex Building (TAMU Bldg #457)

Estimated data

Energy Type	Meter ID	Number of Days	Period	Estimation Method
HHW	005917	14	2/16/2016 – 2/29/2016	Model

Detected issues in the energy balance and/or the consumption data

Data Type	Description of data behaviors	Period
HHW	The consumption level has decreased suddenly.	2/16/2016 – 2/29/2016

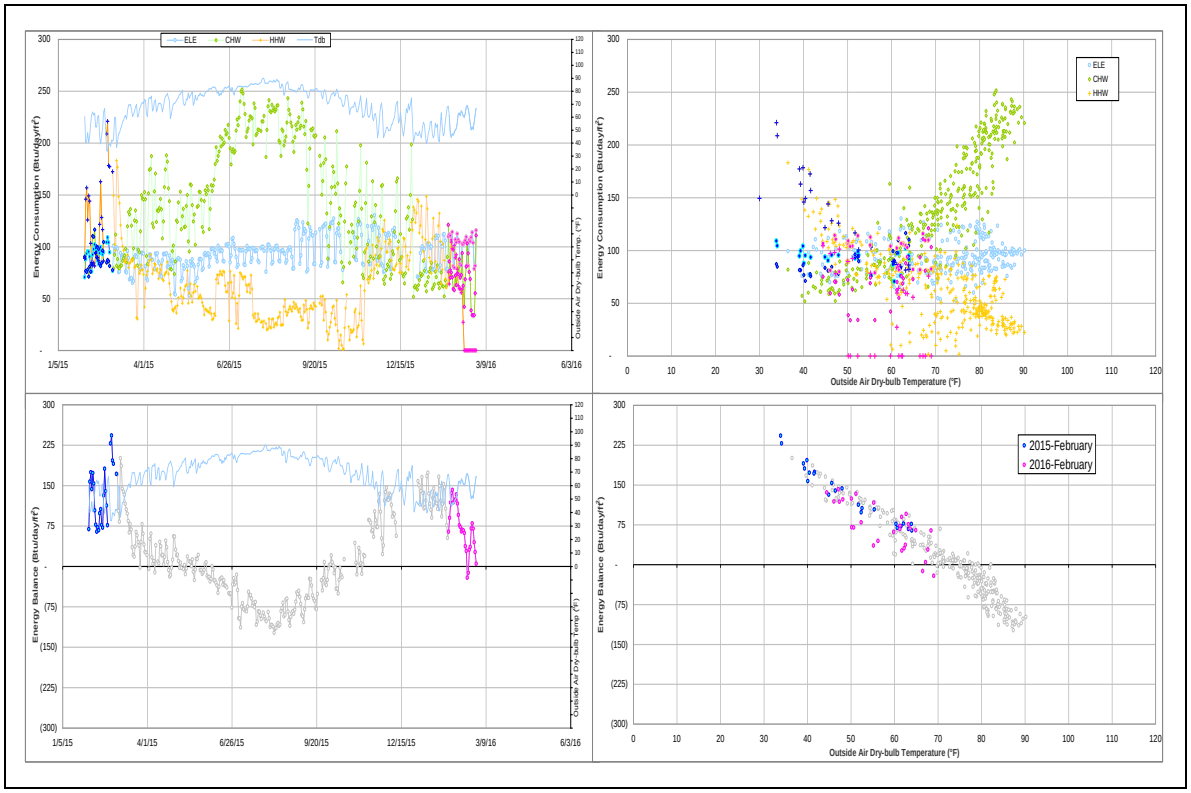
Changes in sensor readings related to the detected issues

Energy Type	Meter ID	Period	Type	Description
HHW	005917	2/16/2016 – 2/29/2016	Flow and delta T	Decreased

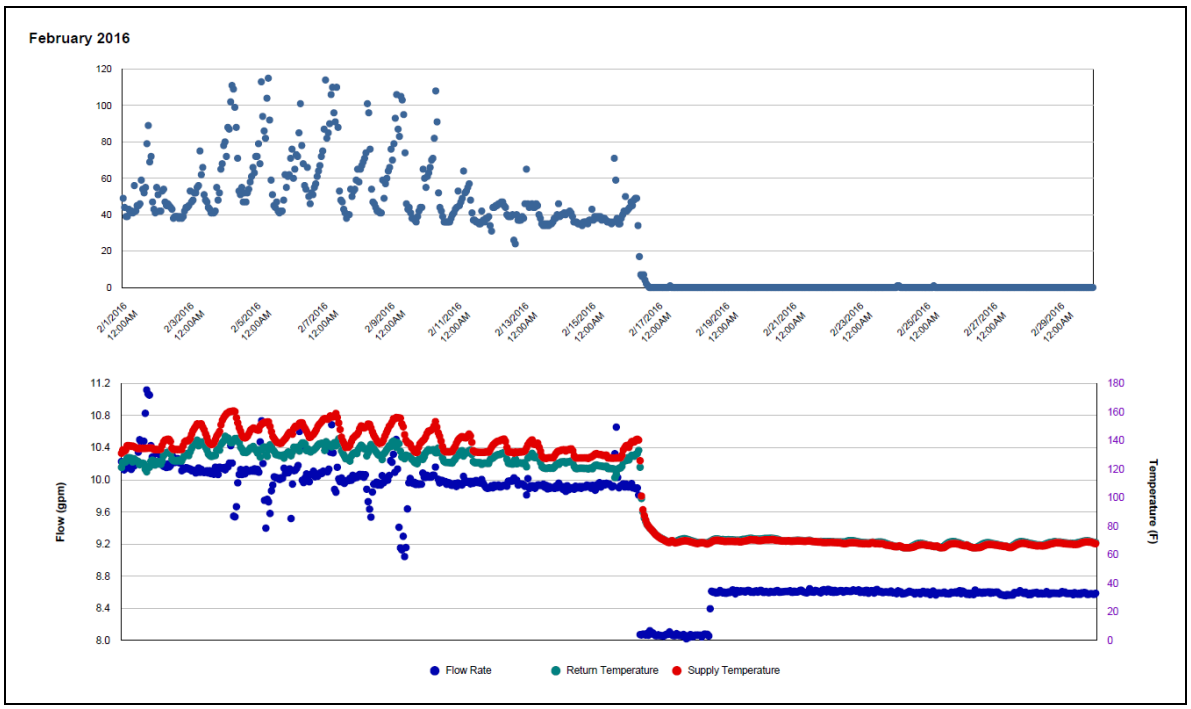
Quantitative descriptions and comments

The HHW consumption decreased to nearly zero since 2/16/2016, as the HHW flow rate decreased by 2 gpm and the delta-T was nearly zero. The consumption was estimated by a model.

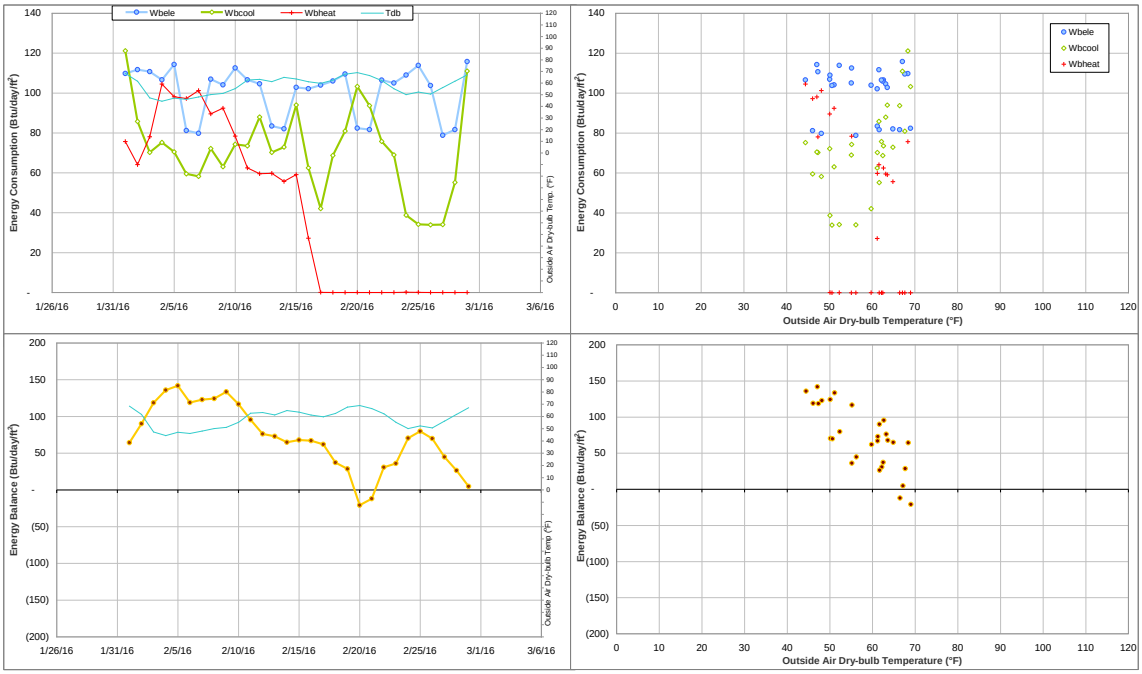
Explanatory Figure: 13 months energy balance plot with original data.



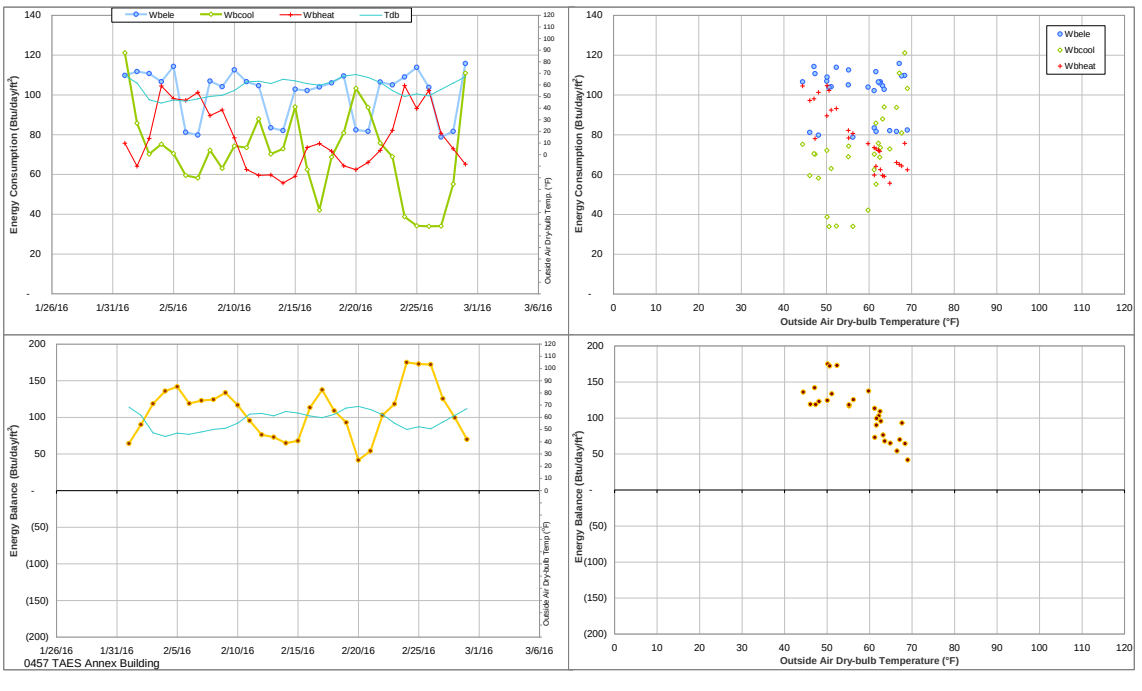
Explanatory Figure: Time series plots of hourly energy consumption, flow rate, and supply and return temperatures from the utilities office. (HHW meter during February 2016)



Energy balance plot using the original data for the month of analysis. Missing data have been filled in, if any.



Energy balance plot using the estimated data for the month of analysis.



Bolton Hall (TAMU Bldg# 480)

Estimated data

Energy Type	Meter ID	Number of Days	Period	Estimation Method
HHW	007016	19	2/11/2016 – 2/29/2016	Model

Detected issues in the energy balance and/or the consumption data

Data Type	Description of data behaviors	Period
HHW	The consumption level has decreased suddenly.	2/11/2016 – ongoing

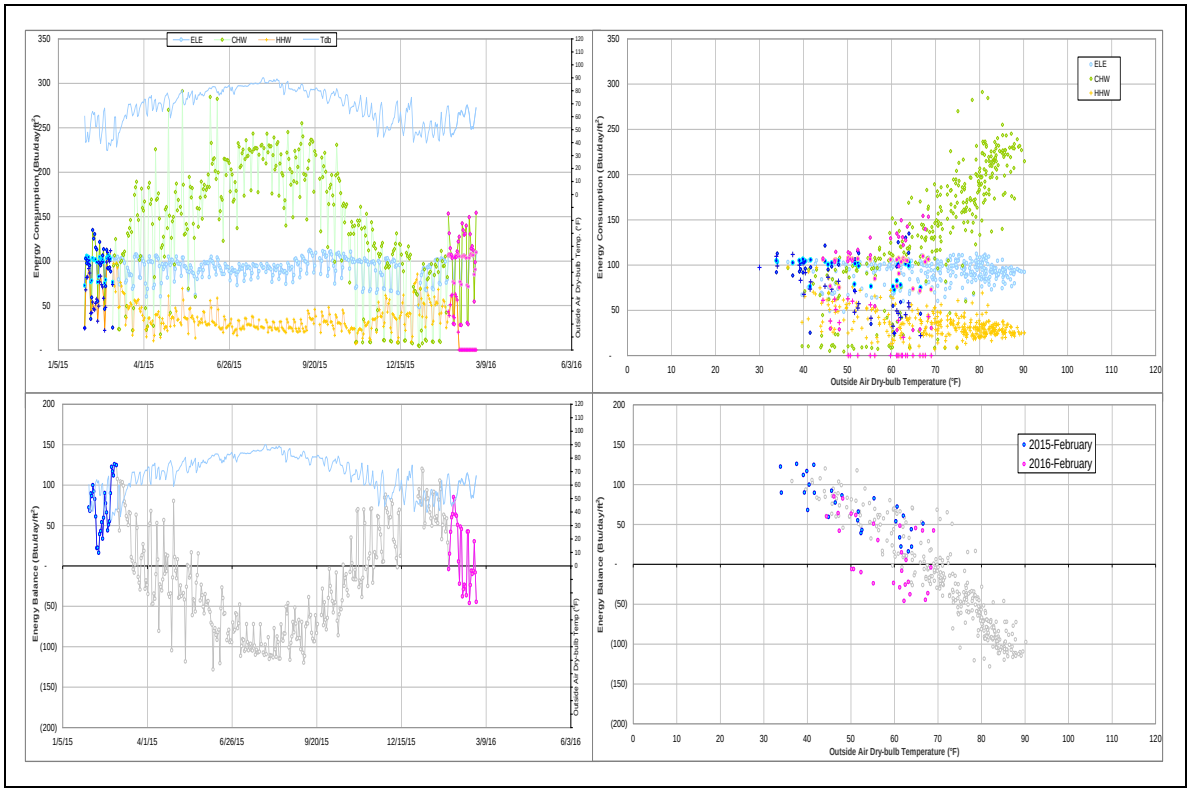
Changes in sensor readings related to the detected issues

Energy Type	Meter ID	Period	Type	Description
HHW	007016	2/11/2016 – ongoing	Flow Rate	Faulty, maintained at a constant value

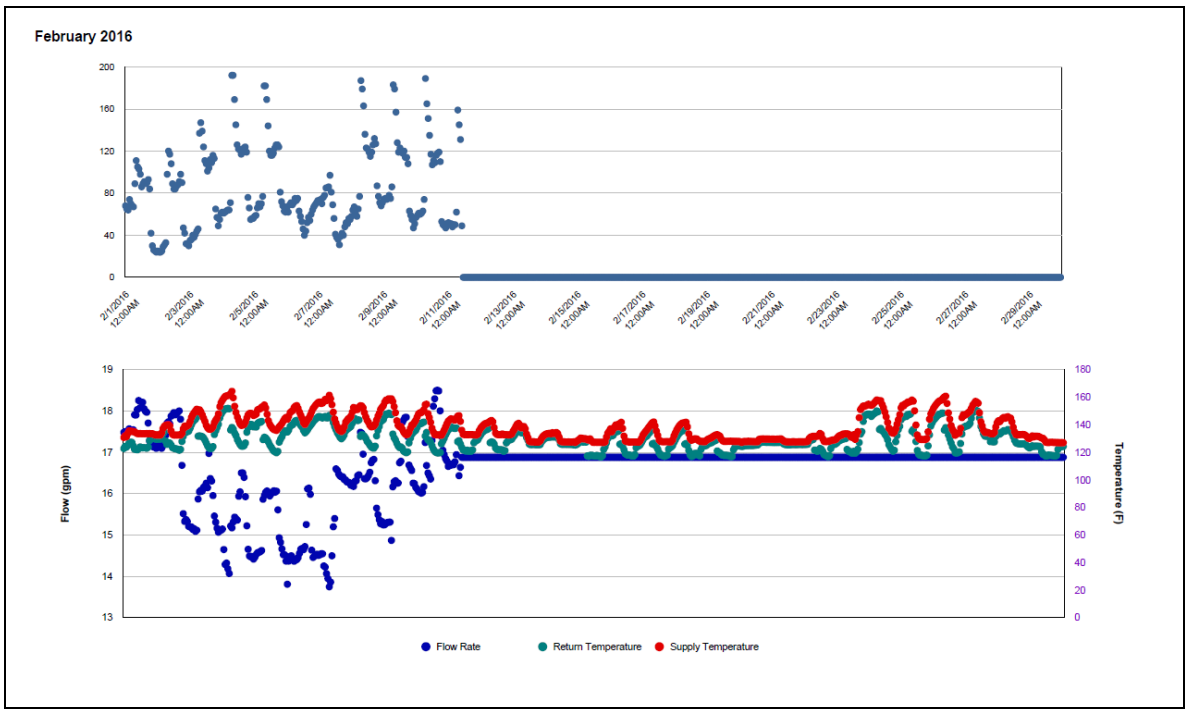
Quantitative descriptions and comments

The flow rate for HHW meter maintained at a constant value since 2/11/2016. As a result HHW consumption suddenly decreased to zero. The consumption was estimated by a model.

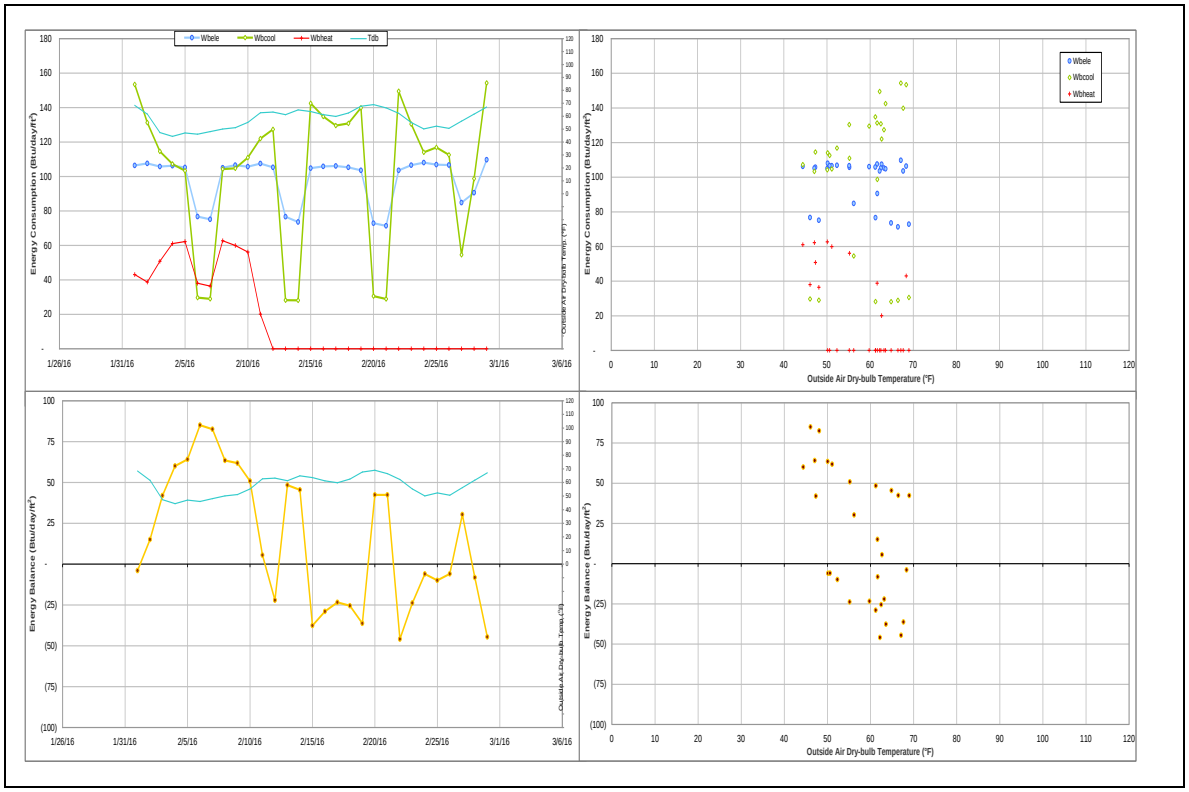
Explanatory Figure: 13 months energy balance plot with original data



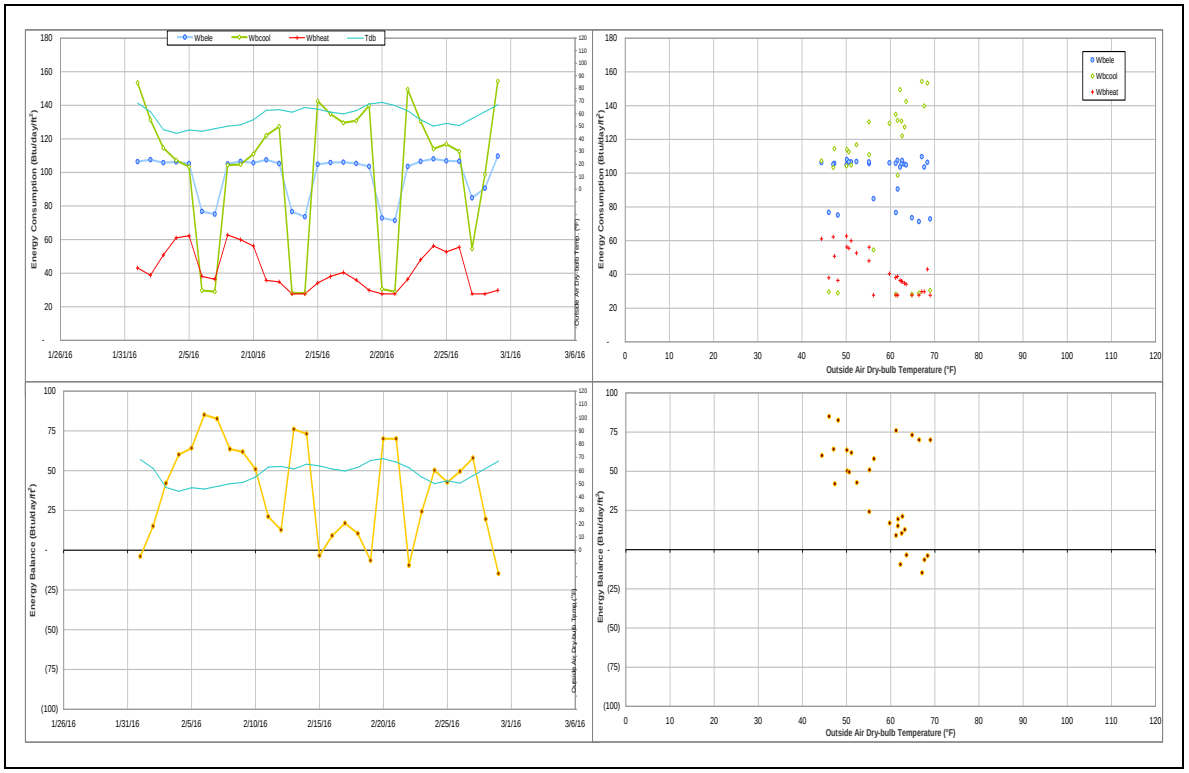
Explanatory Figure: Time series plots of hourly energy consumption, flow rate, and supply and return temperatures from the utilities office. (HHW meter during February 2016)



Energy balance plot using the original data for the month of analysis. Missing data have been filled in, if any.



Energy balance plot using the estimated data for the month of analysis.



Engineering Innovation Center (TAMU Bldg# 499)

Estimated data

Energy Type	Meter ID	Number of Days	Period	Estimation Method
HHW	002683	7	2/14/2016 – 2/20/2016	Linear interpolation

Detected issues in the energy balance and/or the consumption data

Data Type	Description of data behaviors	Period
HHW	The consumption dropped for a short period.	2/14/2016 – 2/20/2016

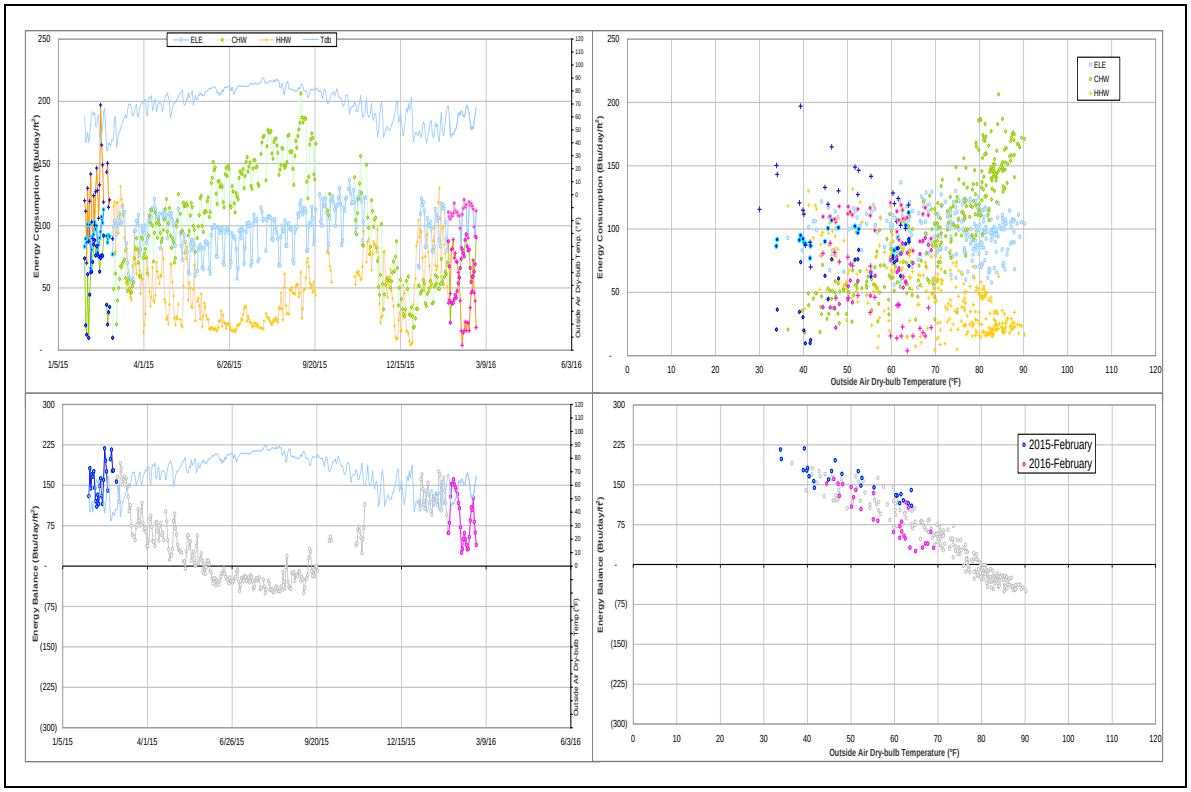
Changes in sensor readings related to the detected issues

Energy Type	Meter ID	Period	Type	Description
HHW	002683	2/14/2016 – 2/20/2016	Delta-T	Negative

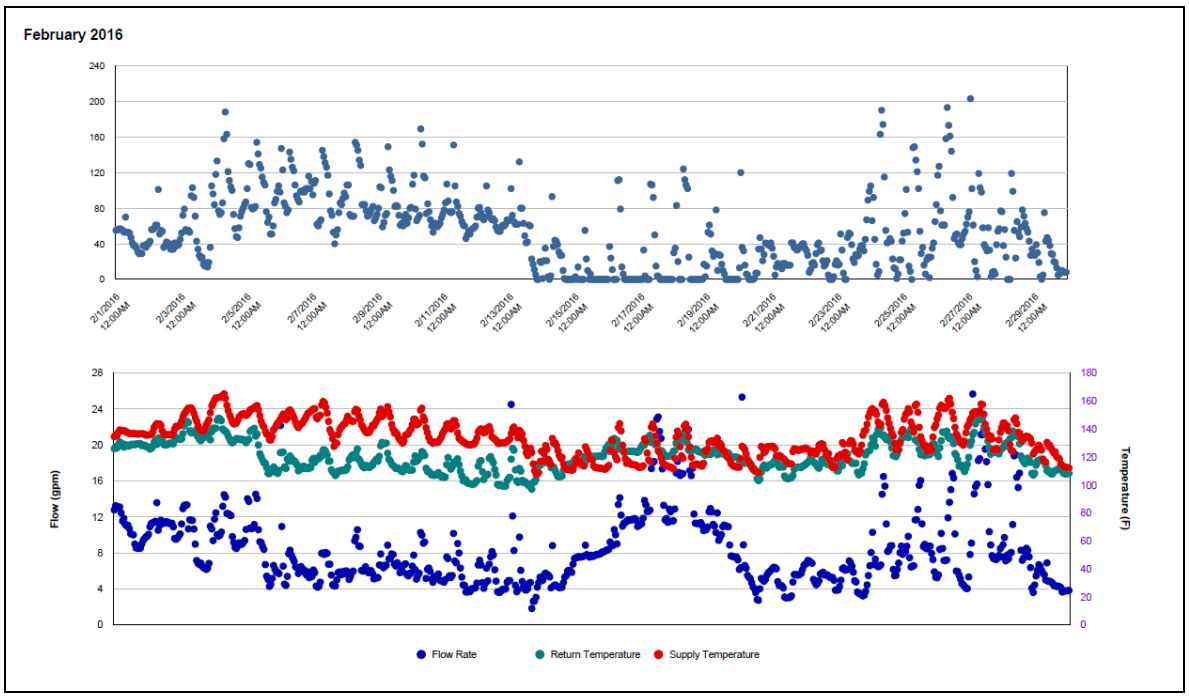
Quantitative descriptions and comments

The delta T for HHW shows to be negative from 2/14/2016 through 2/20/2016. As a result HHW consumption suddenly decreases during this period. The consumption was estimated by a linear interpolation.

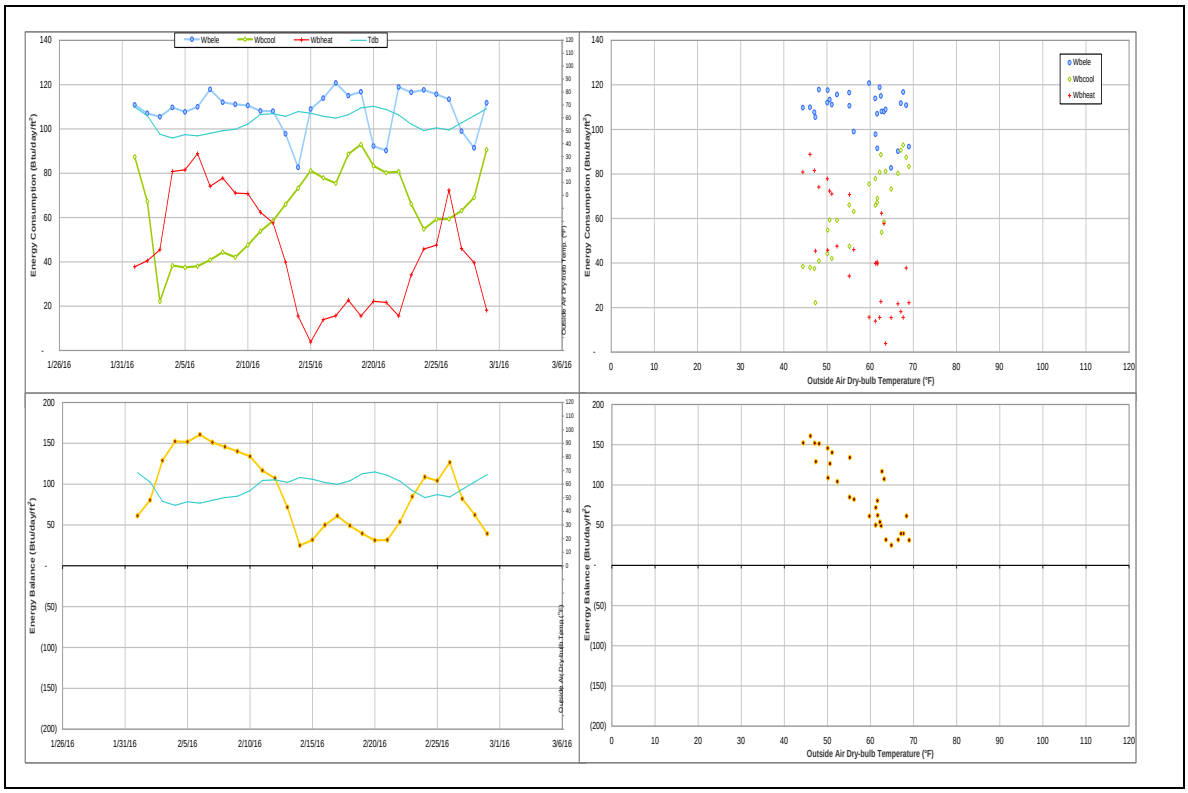
Explanatory Figure: 13 months energy balance plot with original data



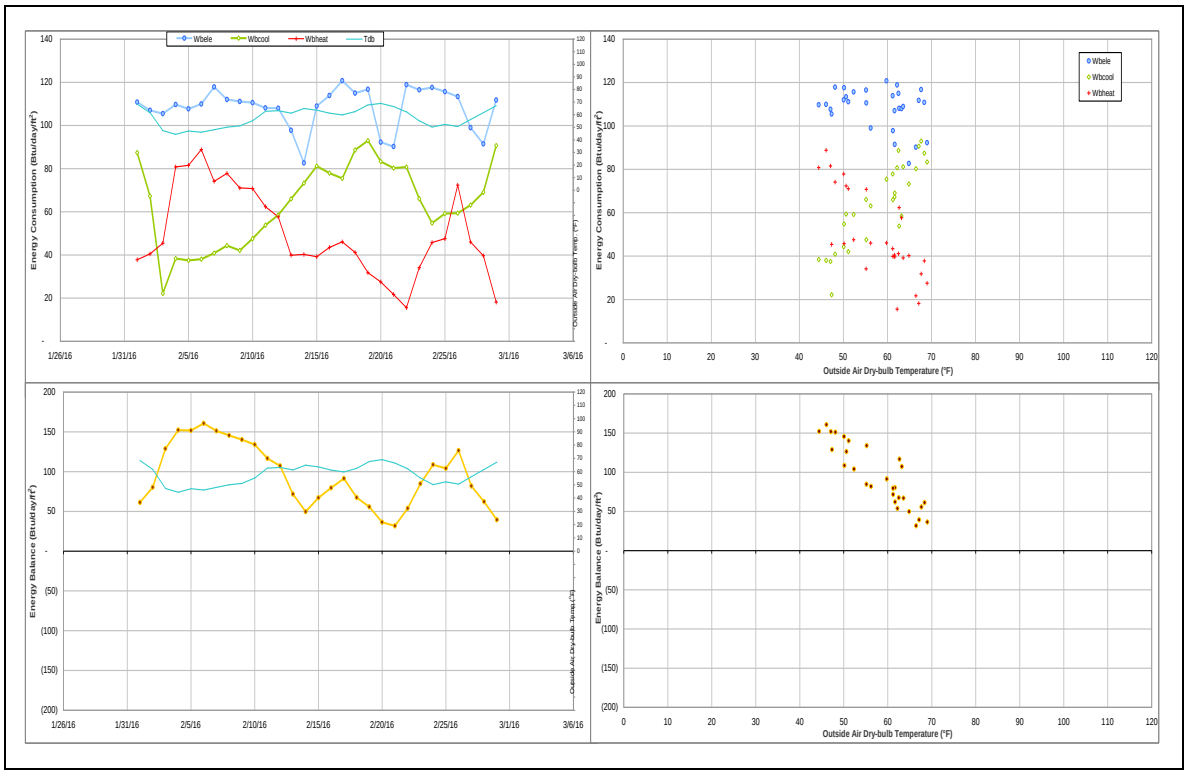
Explanatory Figure: Time series plots of hourly energy consumption, flow rate, and supply and return temperatures from the utilities office. (HHW meter during February 2016)



Energy balance plot using the original data for the month of analysis. Missing data have been filled in, if any.



Energy balance plot using the estimated data for the month of analysis.



Veterinary Teaching Hospital and Veterinary Medicine Administration (TAMU Bldg #508)

Estimated data

Energy Type	Meter ID	Number of Days	Period	Estimation Method
HHW	004170	29	2/1/2016 – 2/29/2016	Model

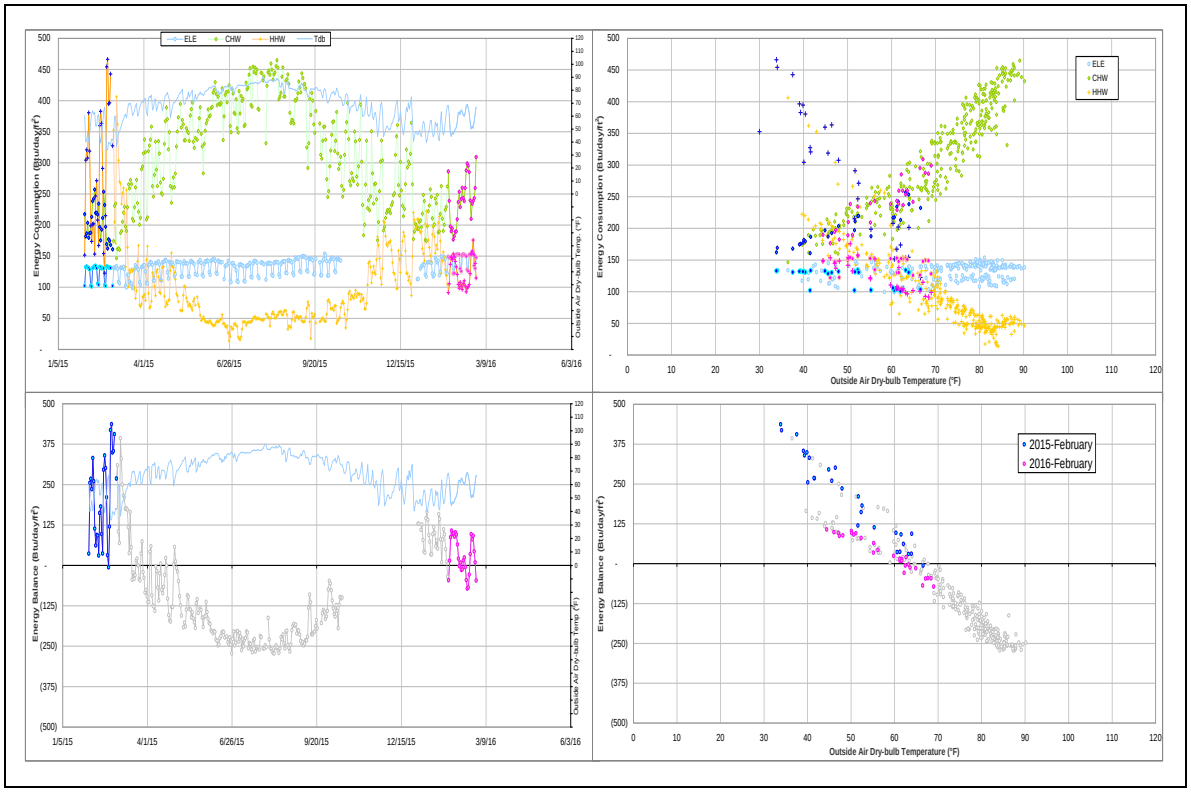
Detected issues in the energy balance and/or the consumption data

Data Type	Description of data behaviors	Period
HHW	The consumption level is lower than the level during the past year.	Jan 2016-ongoing

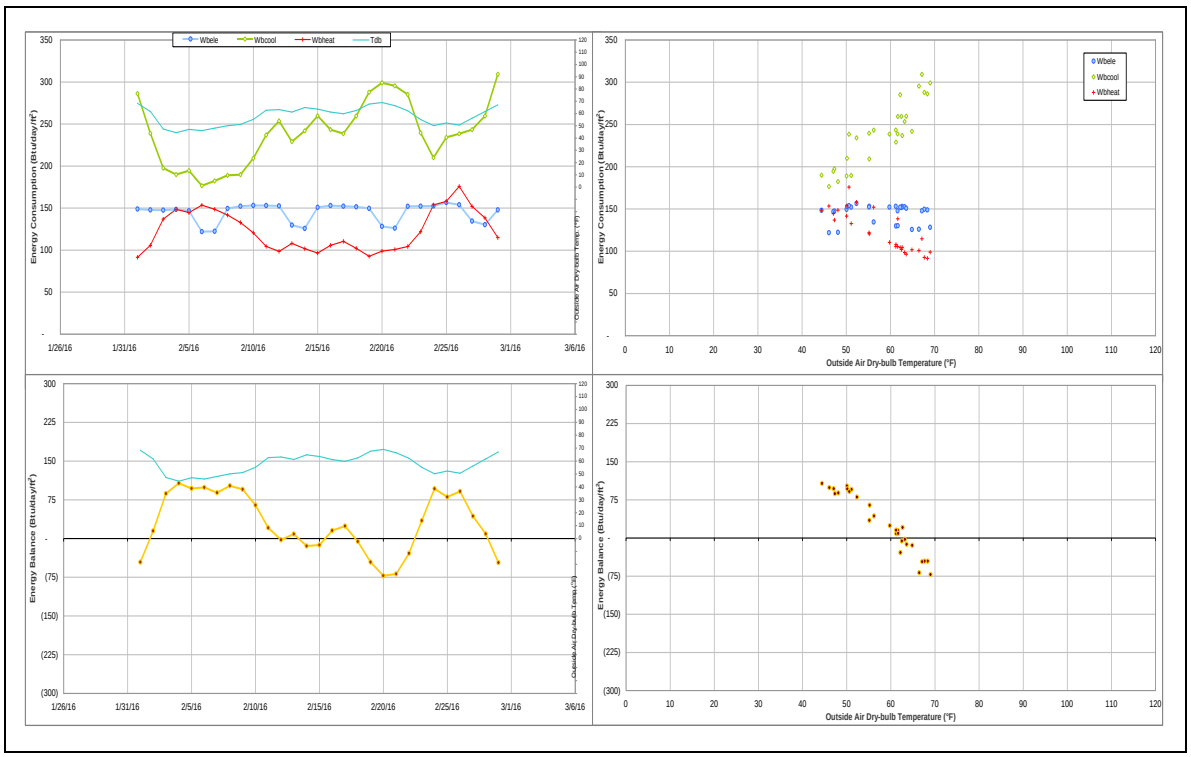
Quantitative descriptions and comments

The HHW consumption decreased gradually this year. The consumption level for current month is approximately 50-150 Btu/day/ft^2 lower than same month of last year. The consumption was estimated by a model.

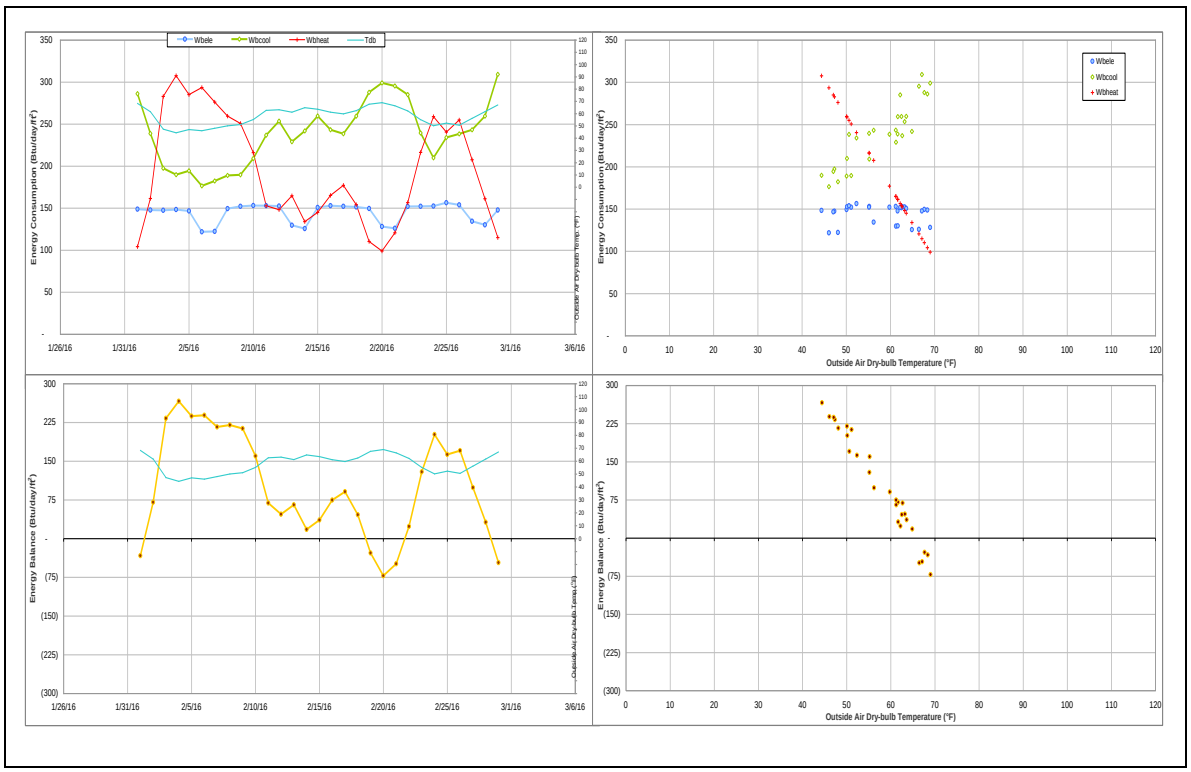
Explanatory Figure: 13 months energy balance plot with original data.



Energy balance plot using the original data for the month of analysis.



Energy balance plot using the estimated data for the month of analysis



Beutel Health Center (TAMU Bldg # 520)

Estimated data

Energy Type	Meter ID	Number of Days	Period	Estimation Method
CHW	003933	29	2/1/2016 – 2/29/2016	Model
HHW	003944	29	2/1/2016 – 2/29/2016	Model

Detected issues in the energy balance and/or the consumption data

Data Type	Description of data behaviors	Period
CHW	The consumption level decreased.	8/22/2015-ongoing
HHW	The consumption level decreased.	8/22/2015-ongoing

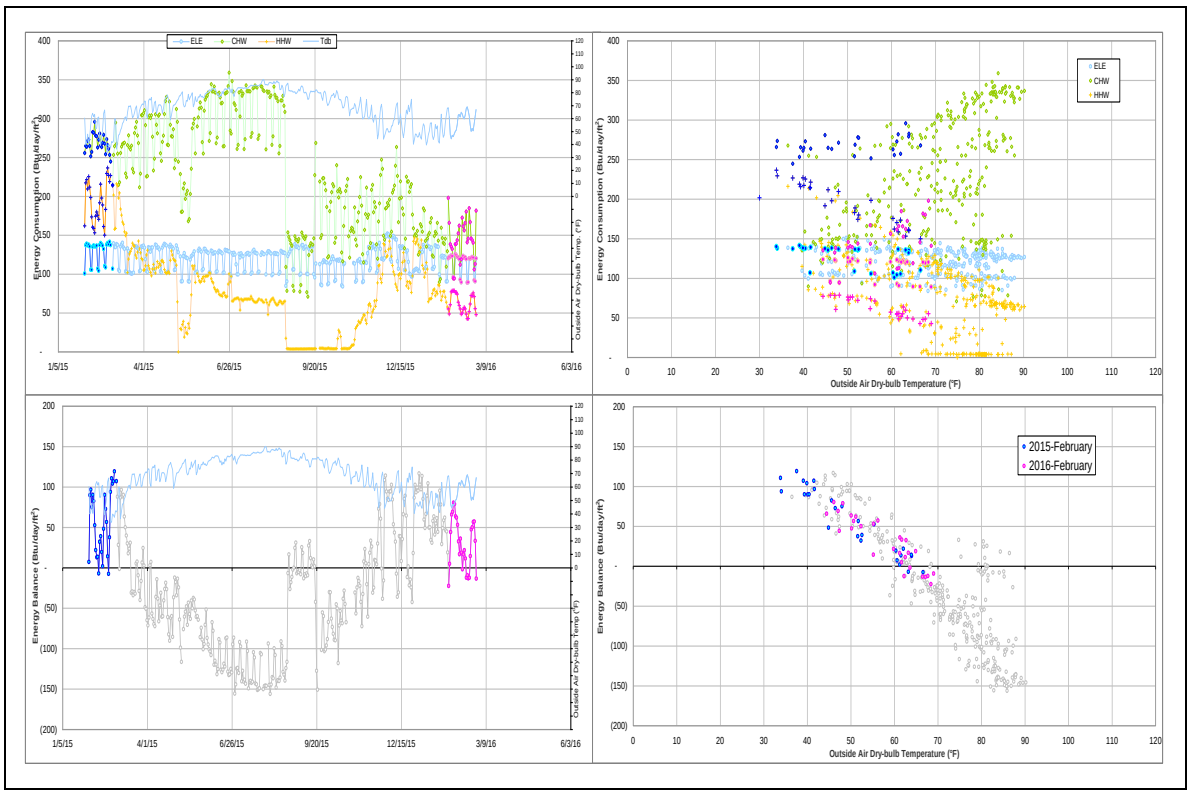
Changes in sensor readings related to the detected issues

Energy Type	Meter ID	Period	Type	Description
CHW	003933	8/22/2015 – 9/19/2015	Flow Rate	Decreased
		8/22/2015 - ongoing	Delta-T	Decreased
HHW	003944	8/22/2015 - ongoing	Delta-T	Decreased and small

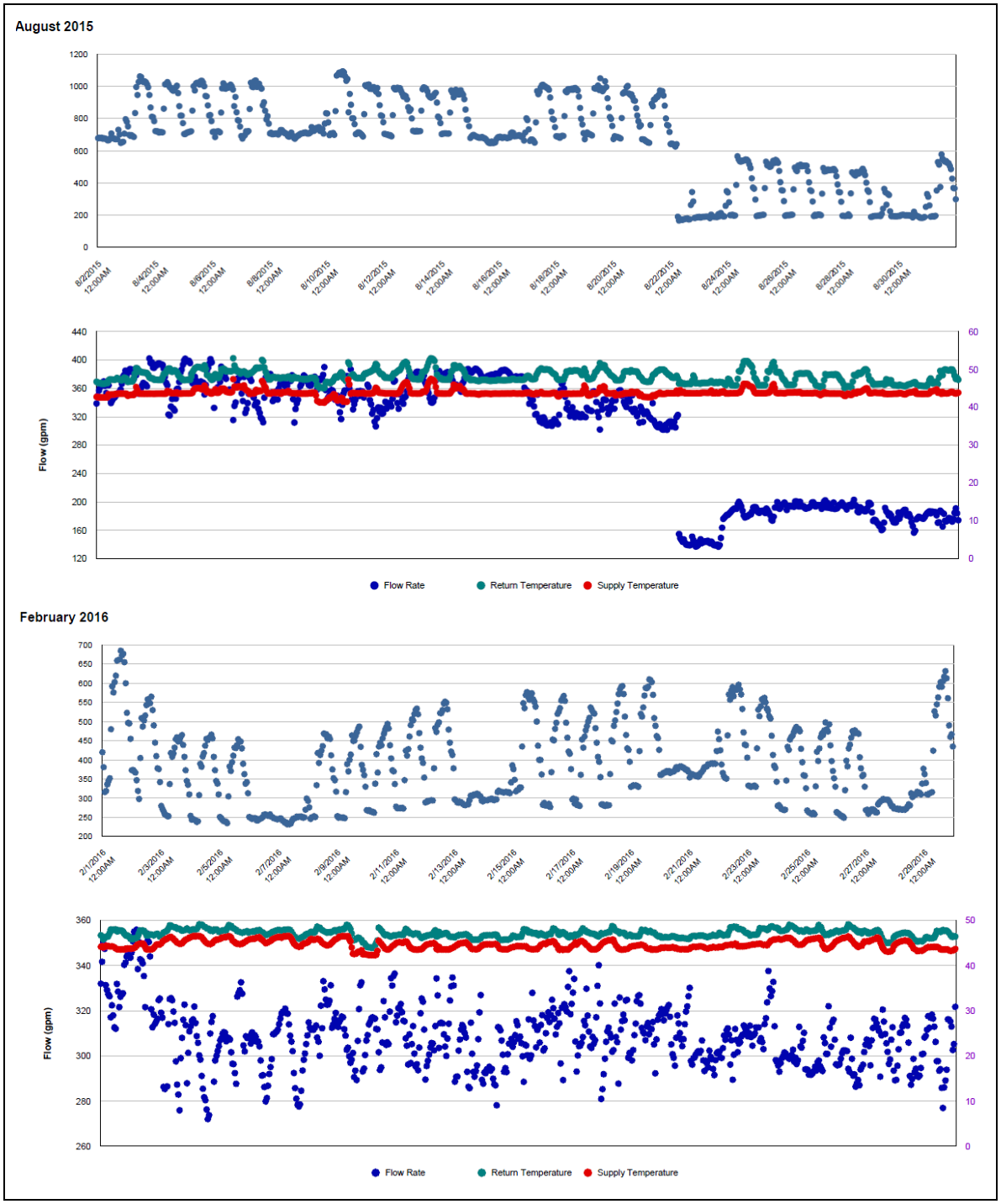
Quantitative descriptions and comments

The return temperature for HHW meter increased and the delta-T became very small since 8/22/2015. At the same time, the flow rate decreased around 50%. As a result, the HHW consumption decreased largely (~80%). The CHW consumption also decreased by approximately 50% after 8/22/2015 caused by a decrease in flow rate. The flow rate increased back on 9/19/2015, but the consumption level for current month is 100 Btu/day/ft^2 lower than that before 8/22/2015. The consumption was estimated by models based on the data during 8/1/2014 - 7/31/2015. We would like to know if this building has renovation recently.

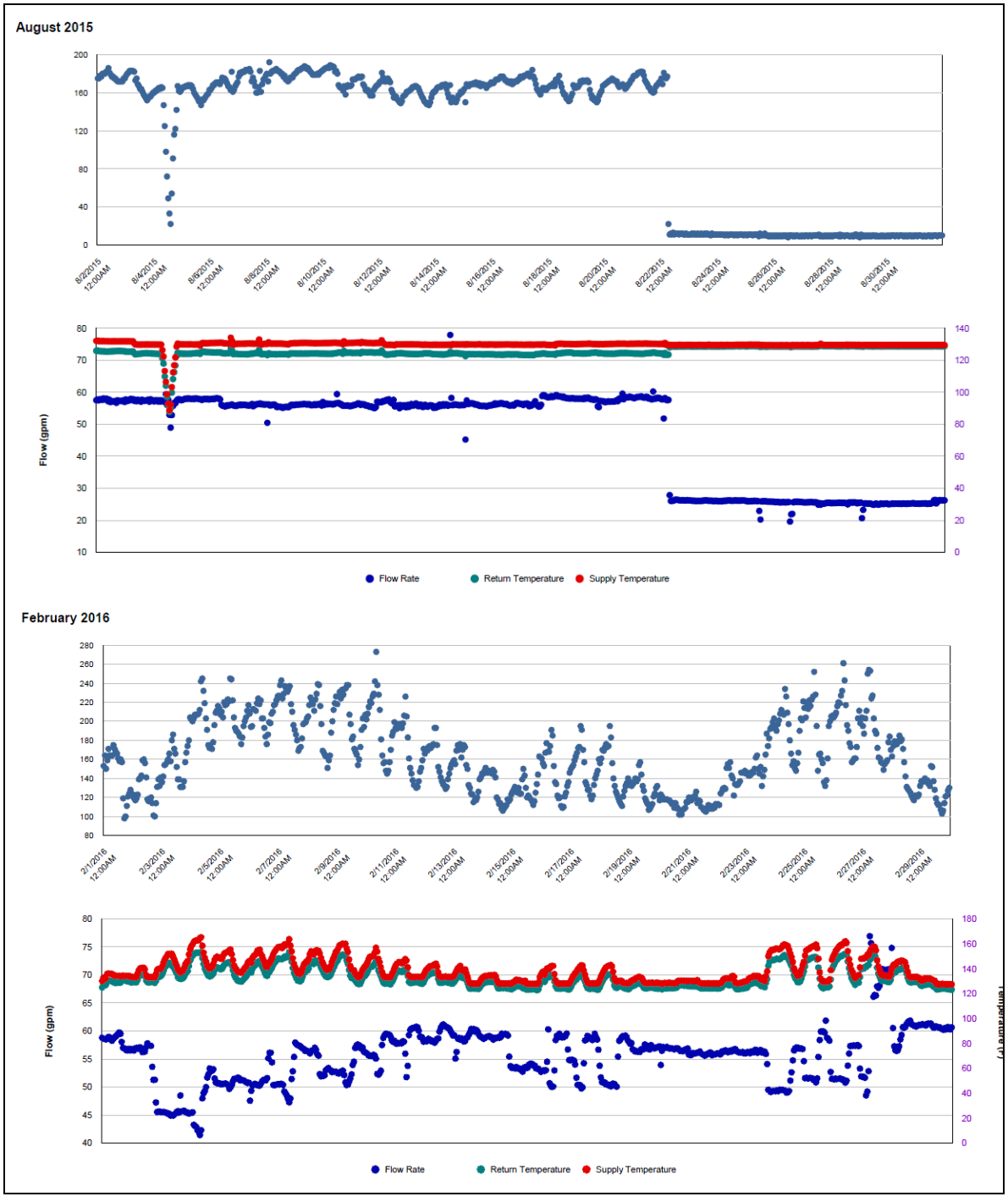
Explanatory Figure: 13 months energy balance plot with original data.



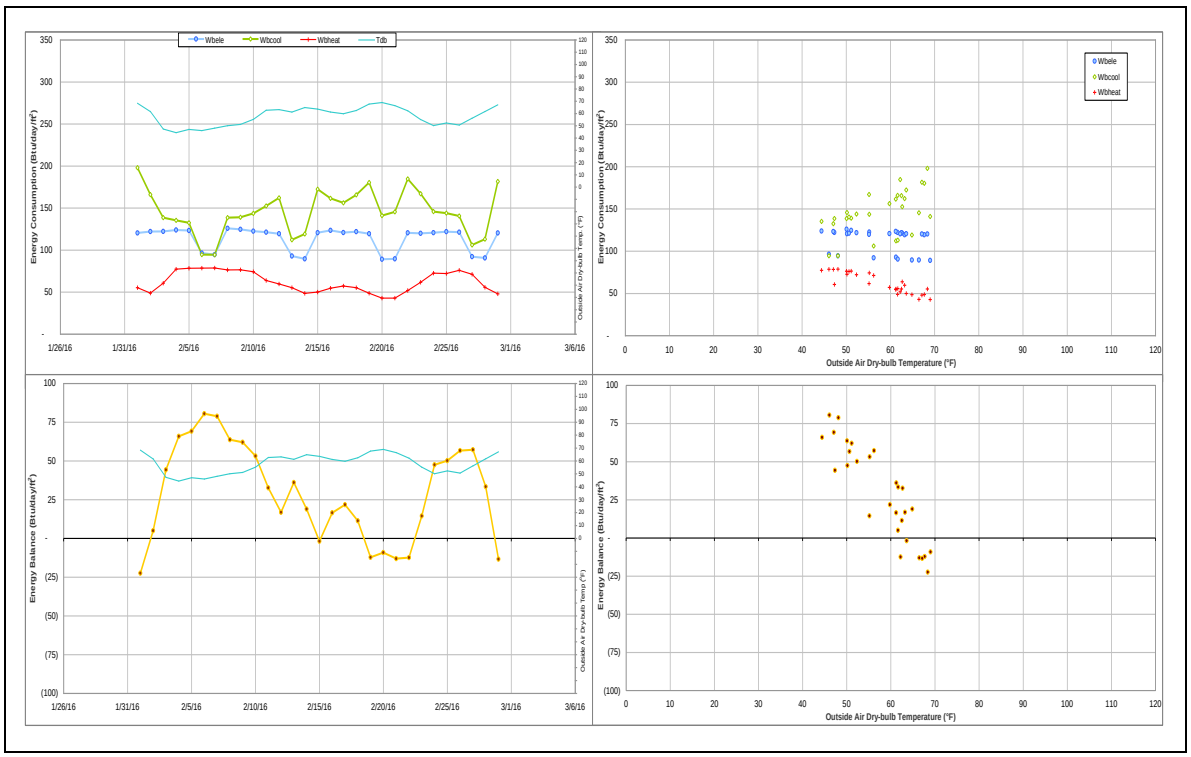
Explanatory Figure: Time series plots of hourly energy consumption, flow rate, and supply and return temperatures from the utilities office. (CHW meter during August 2015 (top) and February 2016 (bottom))



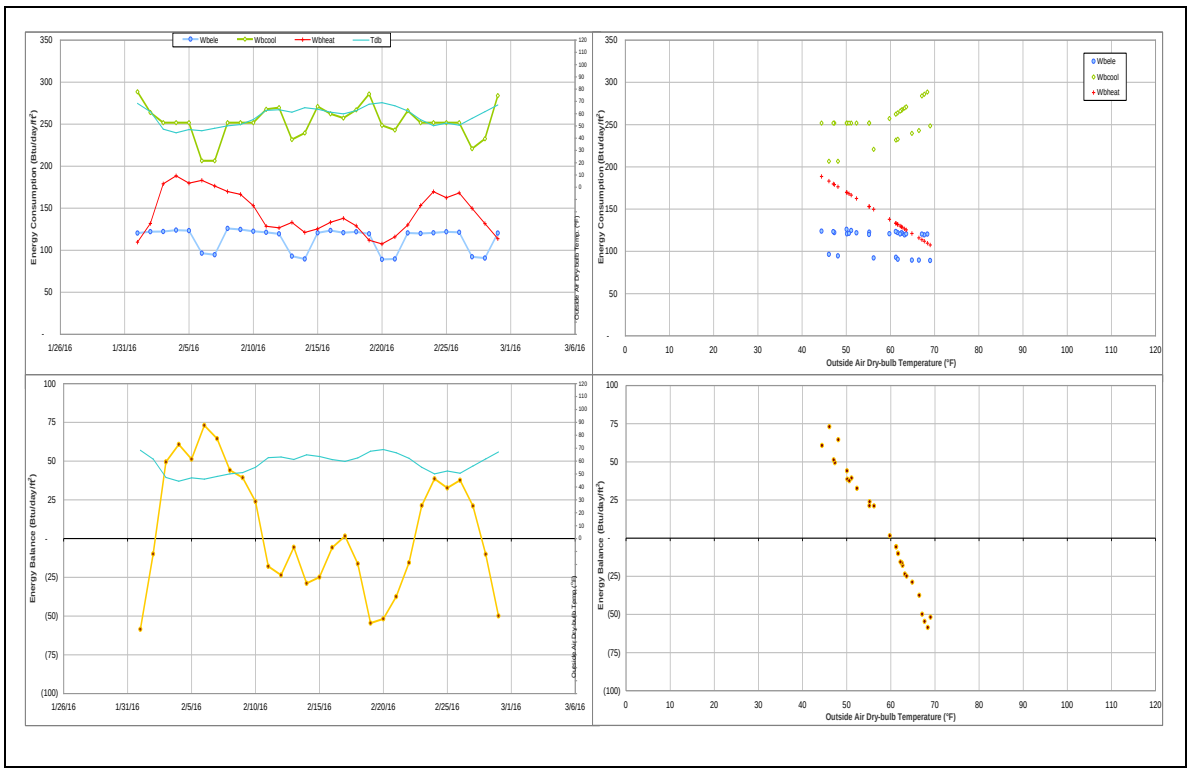
Explanatory Figure: Time series plots of hourly energy consumption, flow rate, and supply and return temperatures from the utilities office. (HHW meter during August 2015 (top) and February 2016 (bottom))



Energy balance plot using the original data for the month of analysis.



Energy balance plot using the estimated data for the month of analysis



McNew Laboratory (TAMU Bldg #740)

Estimated data

Energy Type	Meter ID	Number of Days	Period	Estimation Method
HHW	005968	29	2/1/2016 – 2/29/2016	Model

Detected issues in the energy balance and/or the consumption data

Data Type	Description of data behaviors	Period
Energy Balance	The level decreased and the cross-point of temperature is too low.	3/22/2013–ongoing
HHW	The consumption level decreased by 60% or more.	3/22/2013–ongoing

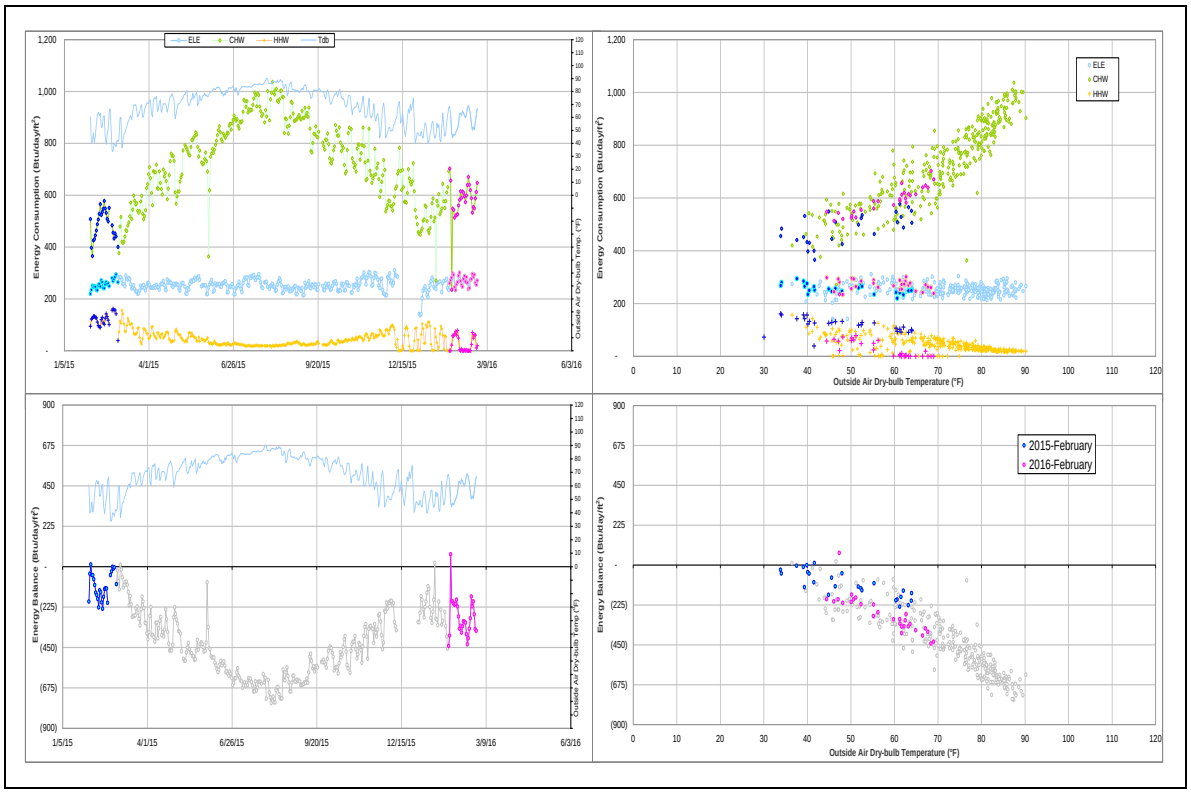
Changes in sensor readings related to the detected issues

Energy Type	Meter ID	Period	Type	Description
HHW	005968	3/22/2013–1/1/2014	Flow Rate	Decreased largely
		1/1/2014 - ongoing	Delta-T	Small

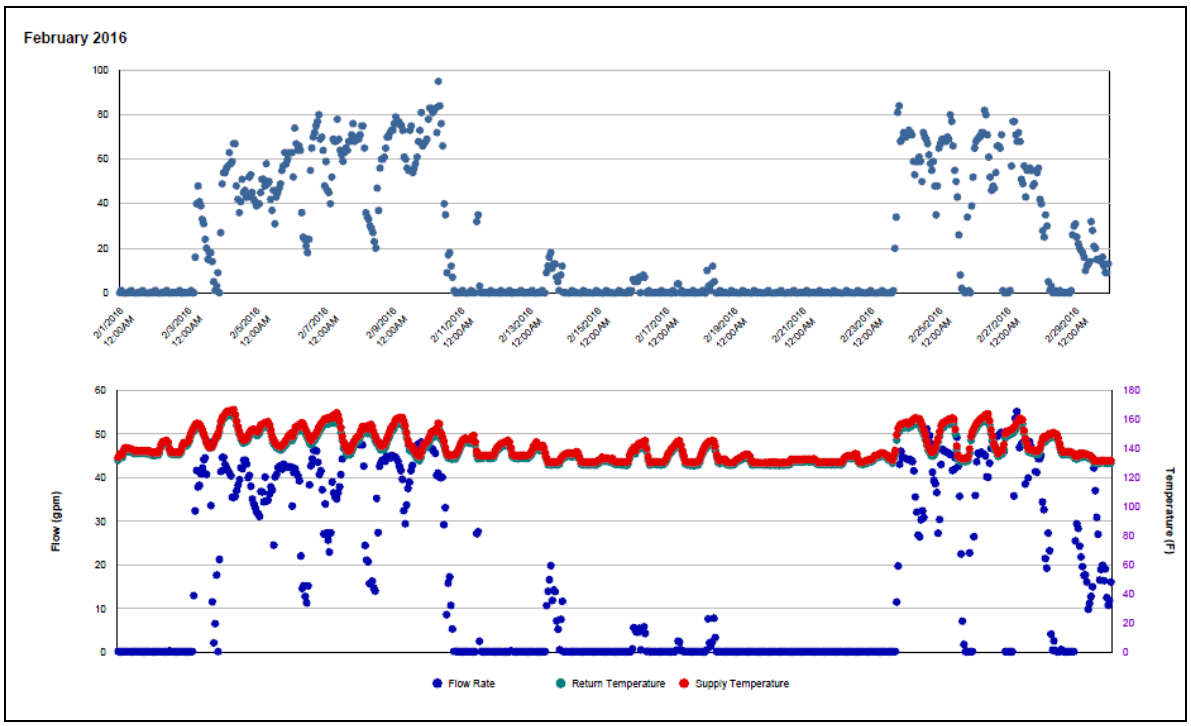
Quantitative descriptions and comments

The energy balance level decreased with around 40°F of cross-point temperature after 3/22/2013 due to the decreased of the HHW consumption. The HHW consumption in current month is about 200 Btu/day/ft^2 lower than that before 3/22/2013. The consumptions were estimated by a model.

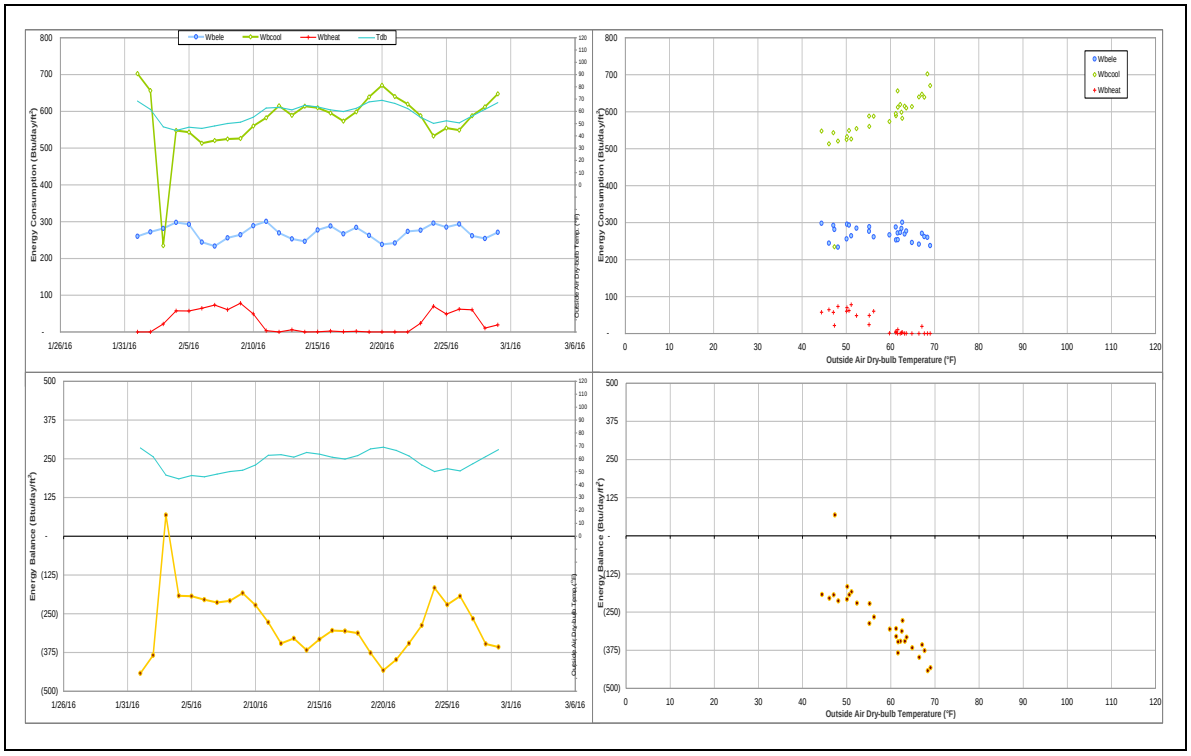
Explanatory Figure: 13 months energy balance plot with original data



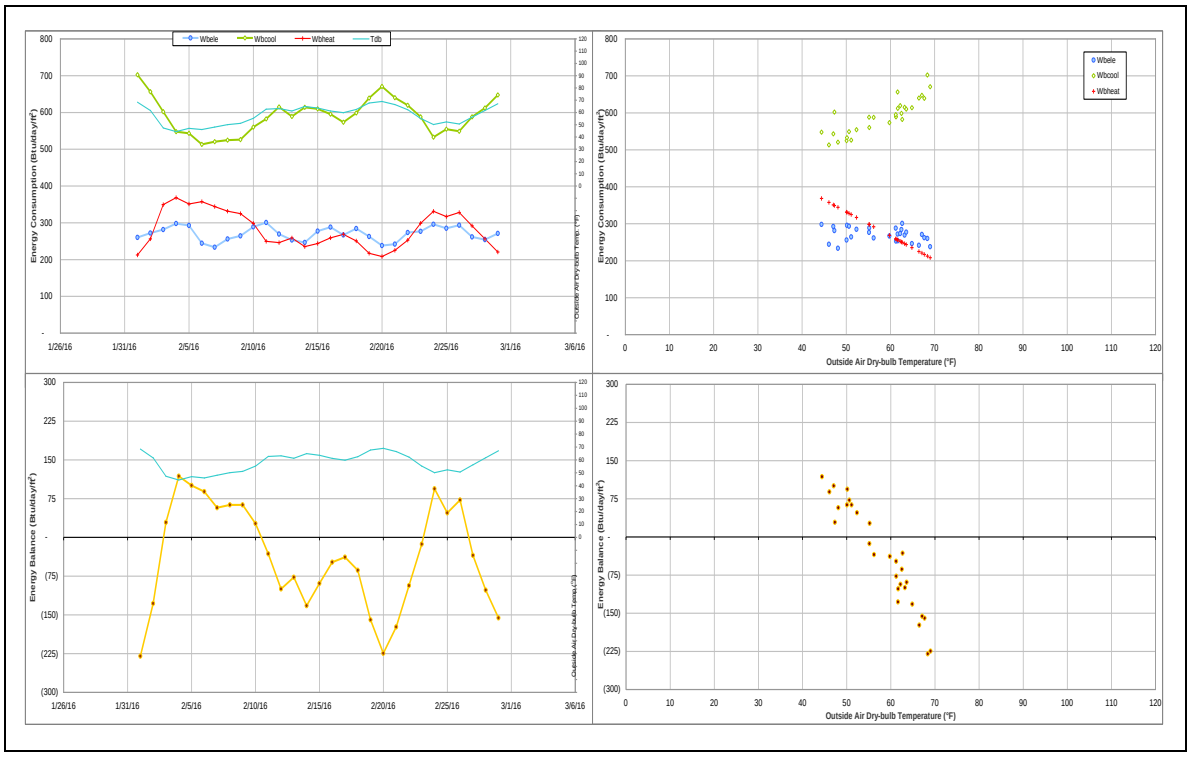
Explanatory Figure: Time series plots of hourly energy consumption, flow rate, and supply and return temperatures from utilities office. (HHW meter during February 2016)



Energy balance plot using the original data for the month of analysis. Missing data have been filled in, if any.



Energy balance plot using the estimated data for the month of analysis



Vivarium III (TAMU Bldg #1020)

Estimated data

Energy Type	Meter ID	Number of Days	Period	Estimation Method
CHW	005997	29	2/1/2016 – 2/29/2016	Model
HHW	006001	29	2/1/2016 – 2/29/2016	Model

Detected issues in the energy balance and/or the consumption data

Data Type	Description of data behaviors	Period
CHW	The consumption increased.	1/14/2016 – ongoing
HHW	The consumption level for this month is low.	October 2015 – ongoing

Changes in sensor readings related to the detected issues

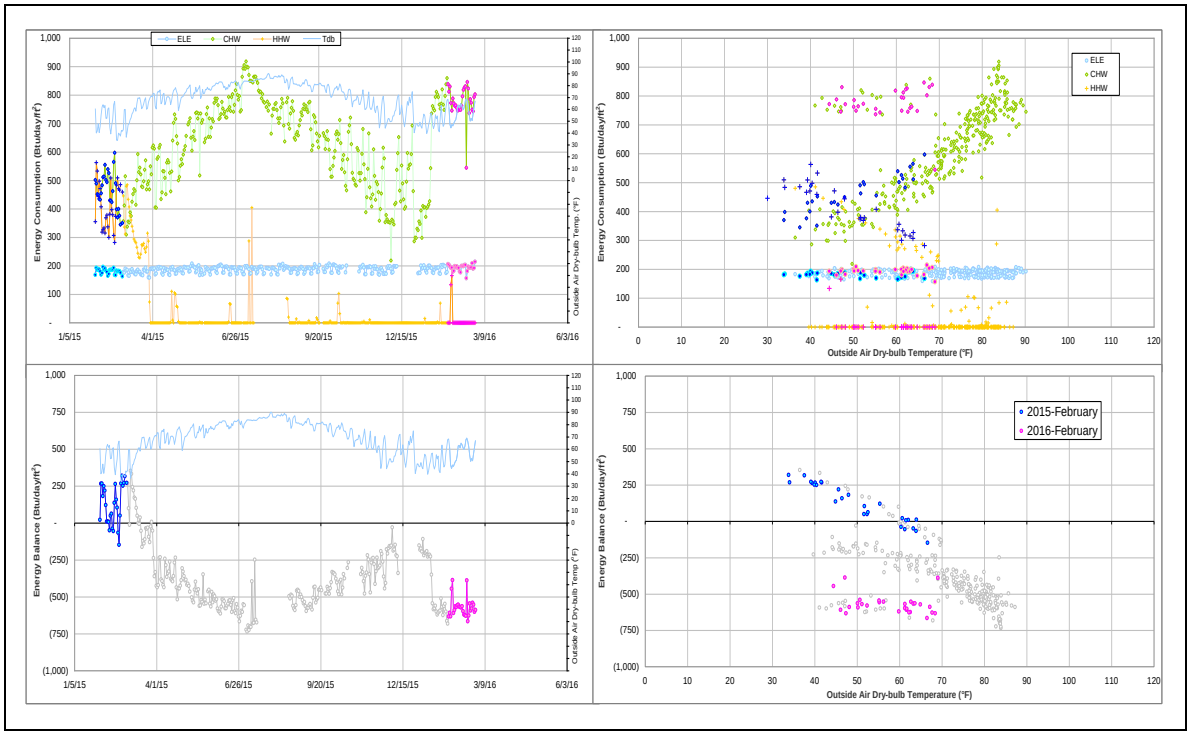
Energy Type	Meter ID	Period	Type	Description
CHW	006001	1/14/2016 – ongoing	Return Temperature	Increased

Quantitative descriptions and comments

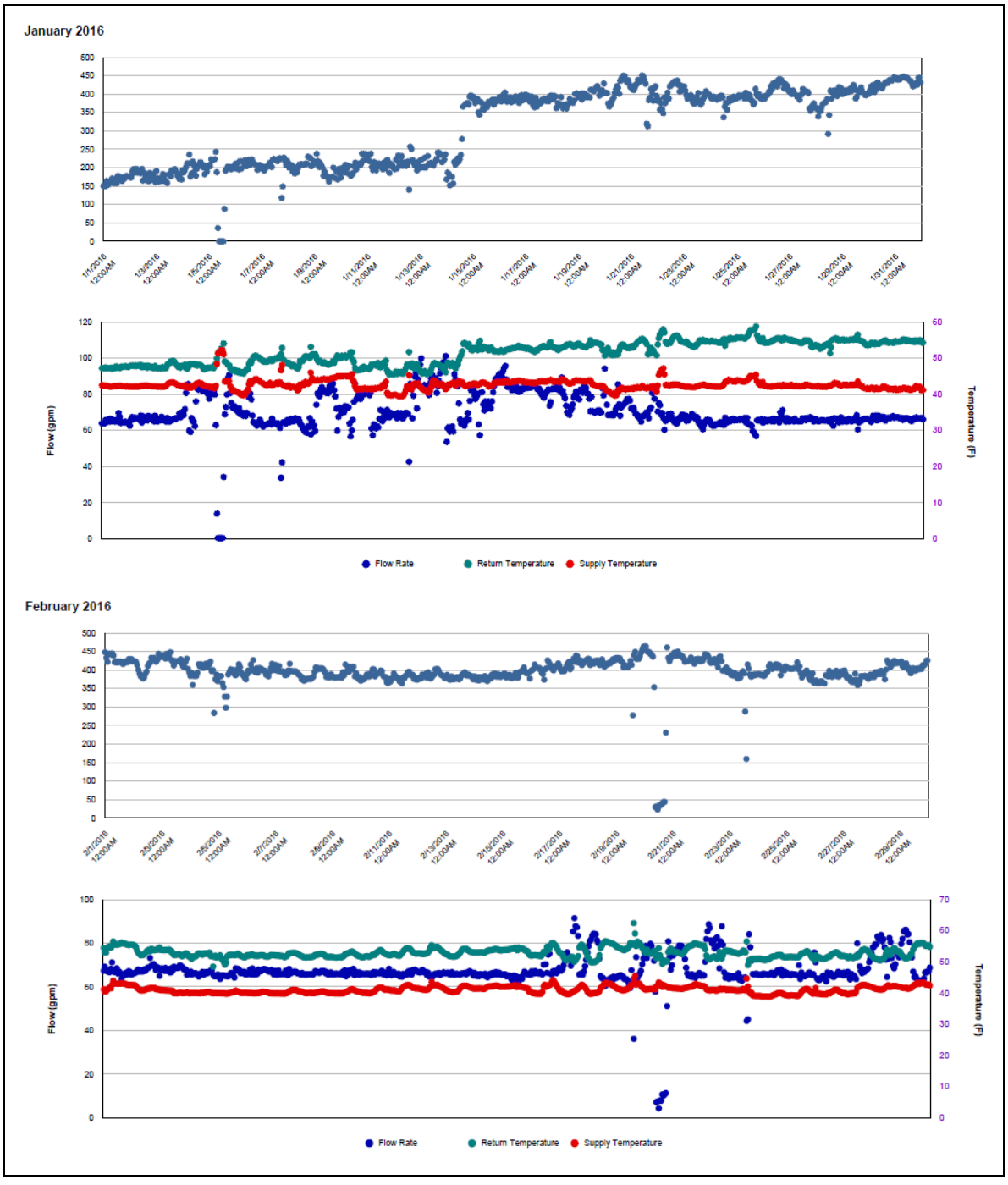
CHW consumption increased by approximately 100% since 1/14/2016 due to a sudden increase of return temperature. The return temperature increased from ~48˚F to ~55˚F.

The HHW consumption for this building doesn't seem to be used too much during summer period. Usually the consumption increased after October. But the HHW consumption for this month still maintained at low consumption level. As a result, the energy balance load for current month is low with the cross-point temperature less than 40˚F. The consumption for entire month was estimated by models.

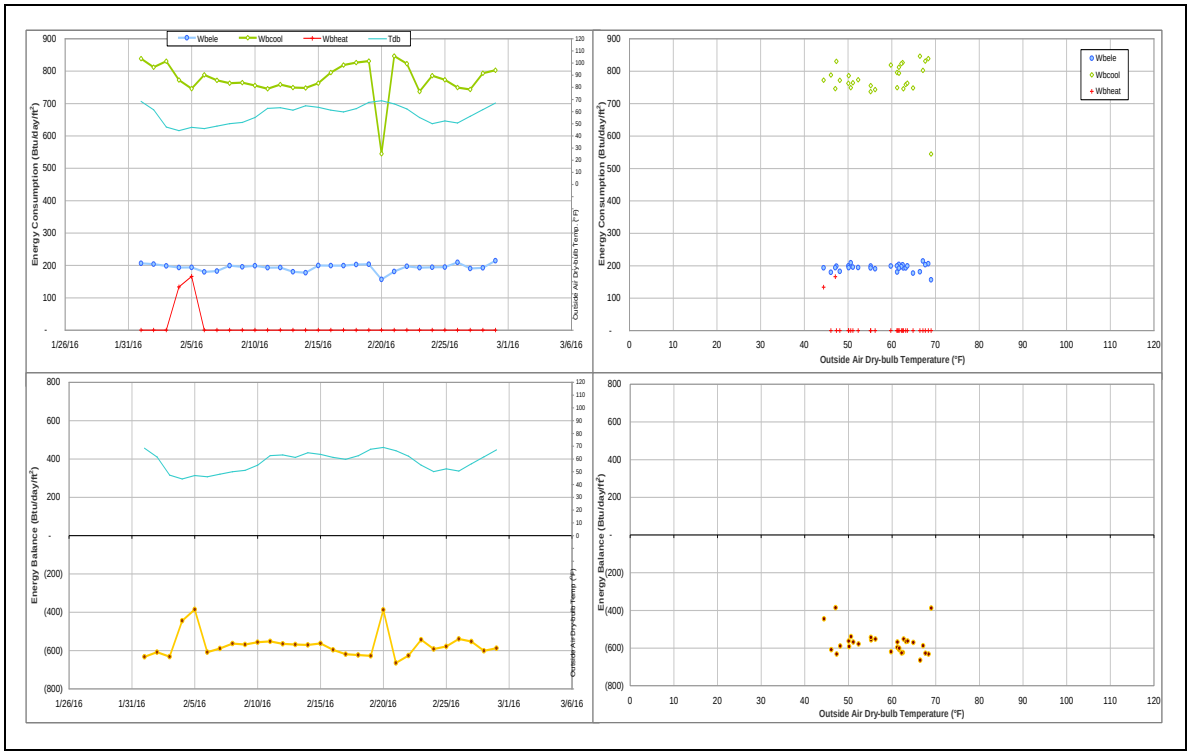
Explanatory Figure: 13 months energy balance plot with original data (problematic HHW data during7/16/2015 – 8/16/2015 has been removed from the plot.)



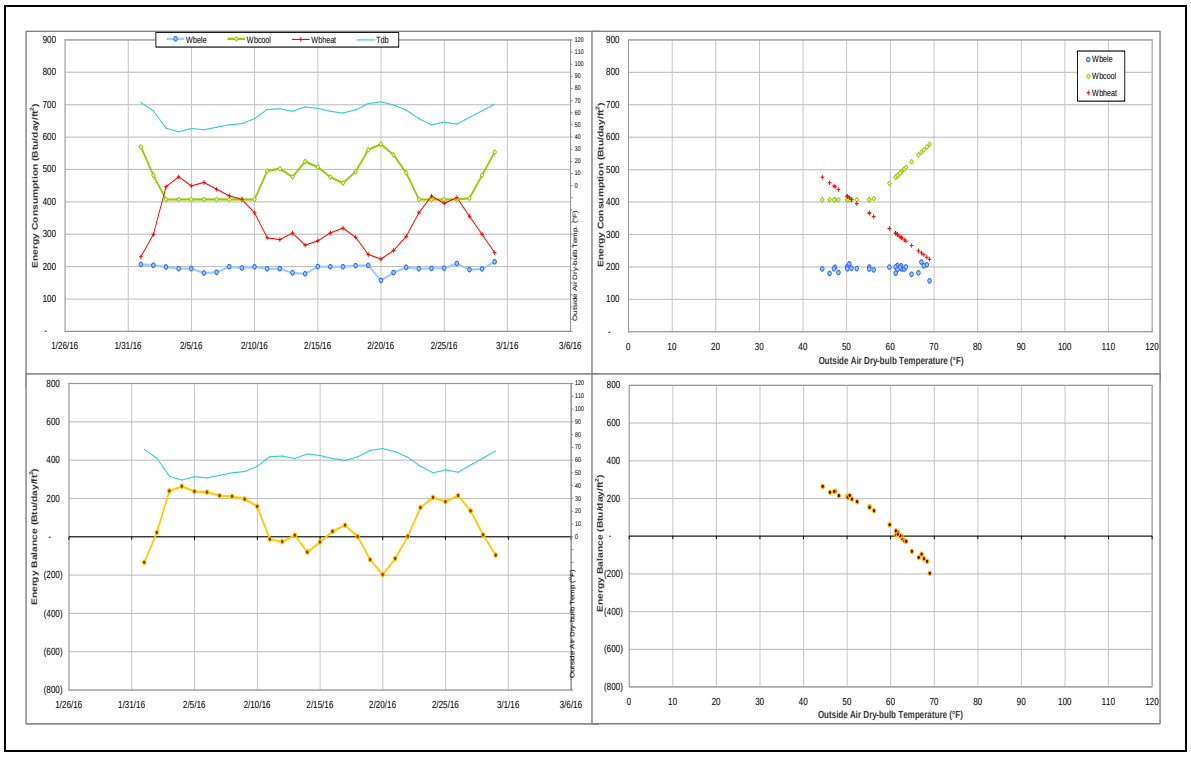
Explanatory Figure: Time series plots of hourly energy consumption, flow rate, and supply and return temperatures from the utilities office (CHW meter for January (top) and February (bottom) 2016)



Energy balance plot using the original data for the month of analysis. Missing data have been filled in, if any.



Energy balance plot using the estimated data for the month of analysis



Veterinary Small Animal Hospital (TAMU Bldg #1085)

Estimated data

Energy Type	Meter ID	Number of Days	Period	Estimation Method
HHW	003660	12	2/13/2016-2/24/2016	Model

Detected issues in the energy balance and/or the consumption data

Data Type	Description of data behaviors	Period
HHW	The consumption increased and the recorded values seemed to be faulty.	2/13/2016-2/24/2016

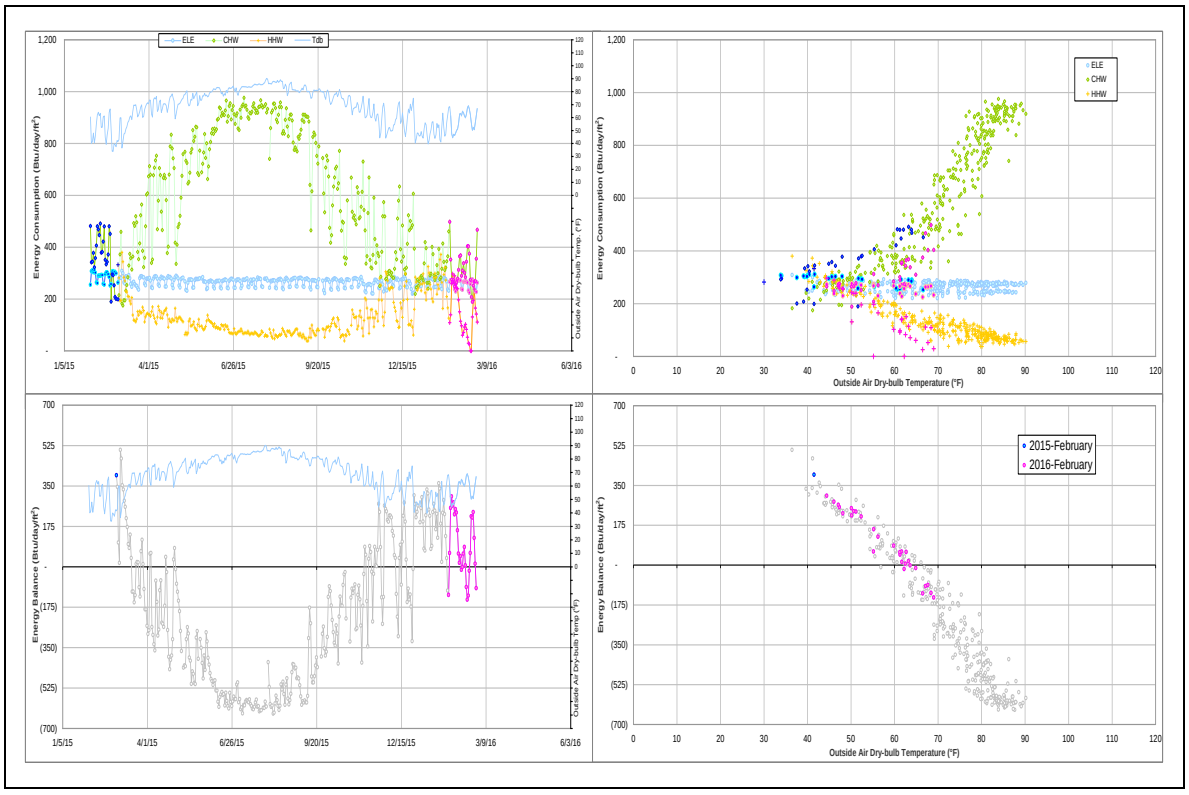
Changes in sensor readings related to the detected issues

Energy Type	Meter ID	Period	Type	Description
HHW	003660	2/13/2016-2/21/2016	Delta-T	Decreased
		2/21/2016-2/23/2016	Flow rate	Decreased to zero

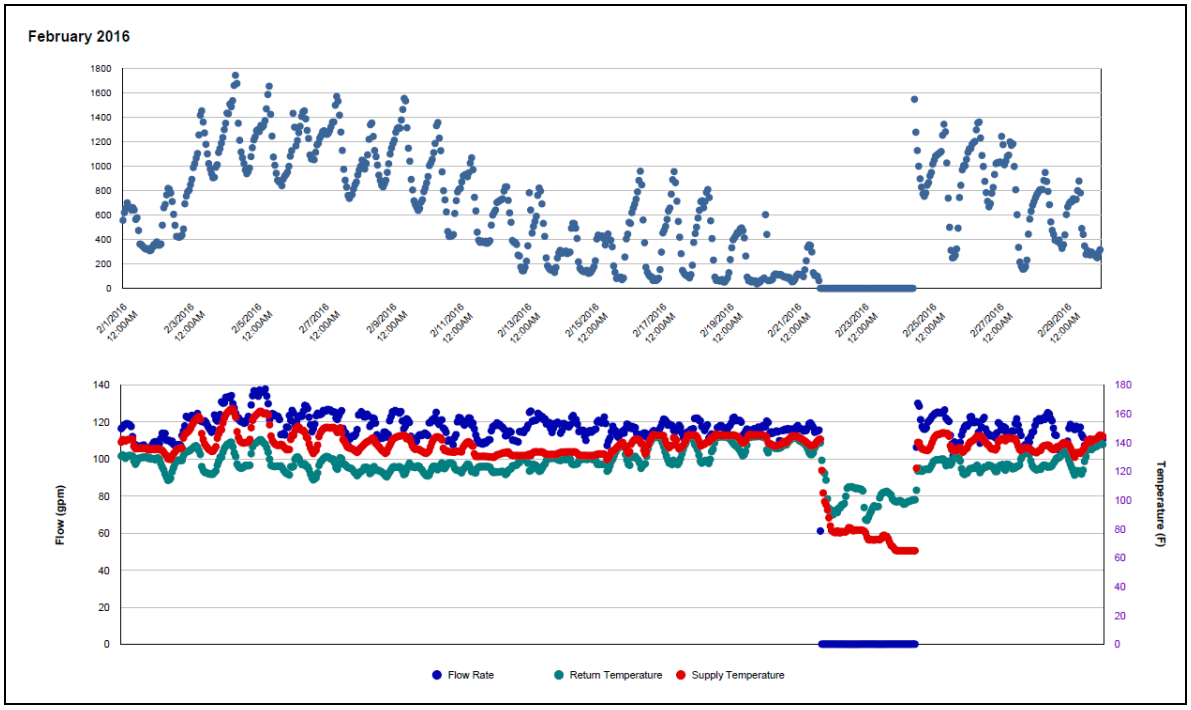
Quantitative descriptions and comments

The HHW consumption decreased 50 – 150 Btu/day/ft^2 caused by decreased delta-T during 2/13/2016 – 2/21/2016 and zero reading of flow rate decreased to zero during 2/21/2016 – 2/23/2016. The problematic consumption was estimated by a model.

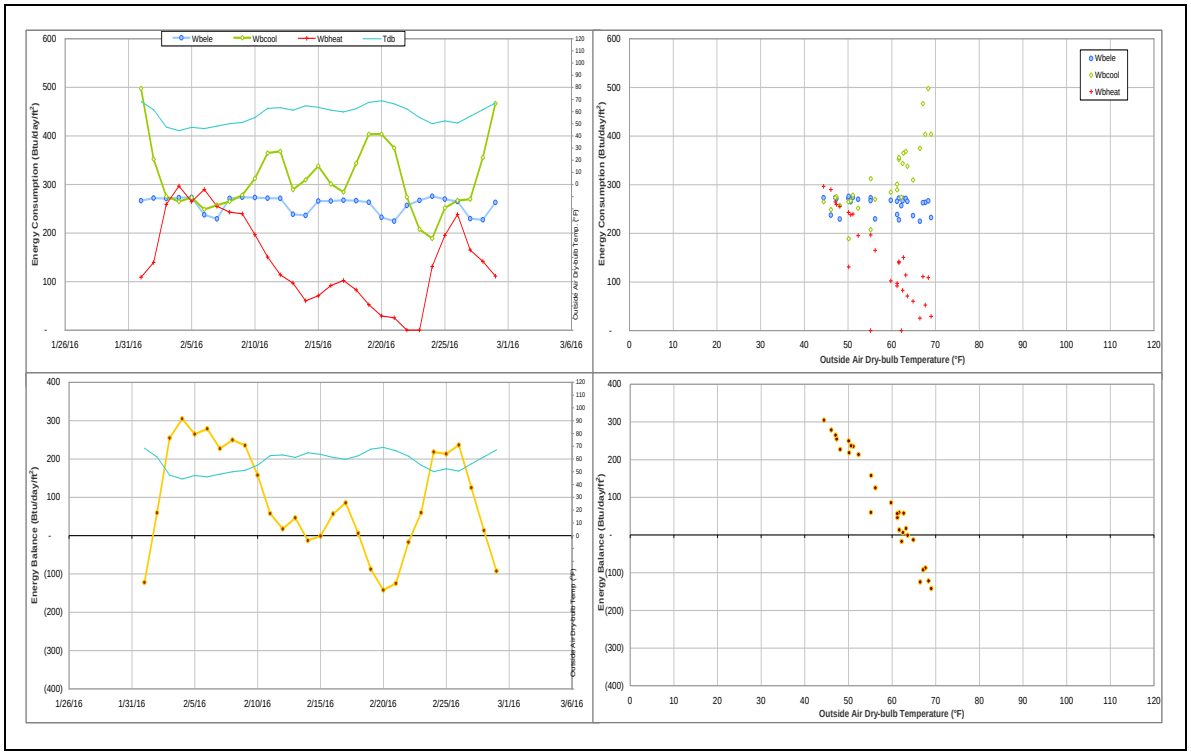
Explanatory Figure: 13 months energy balance plot with original data



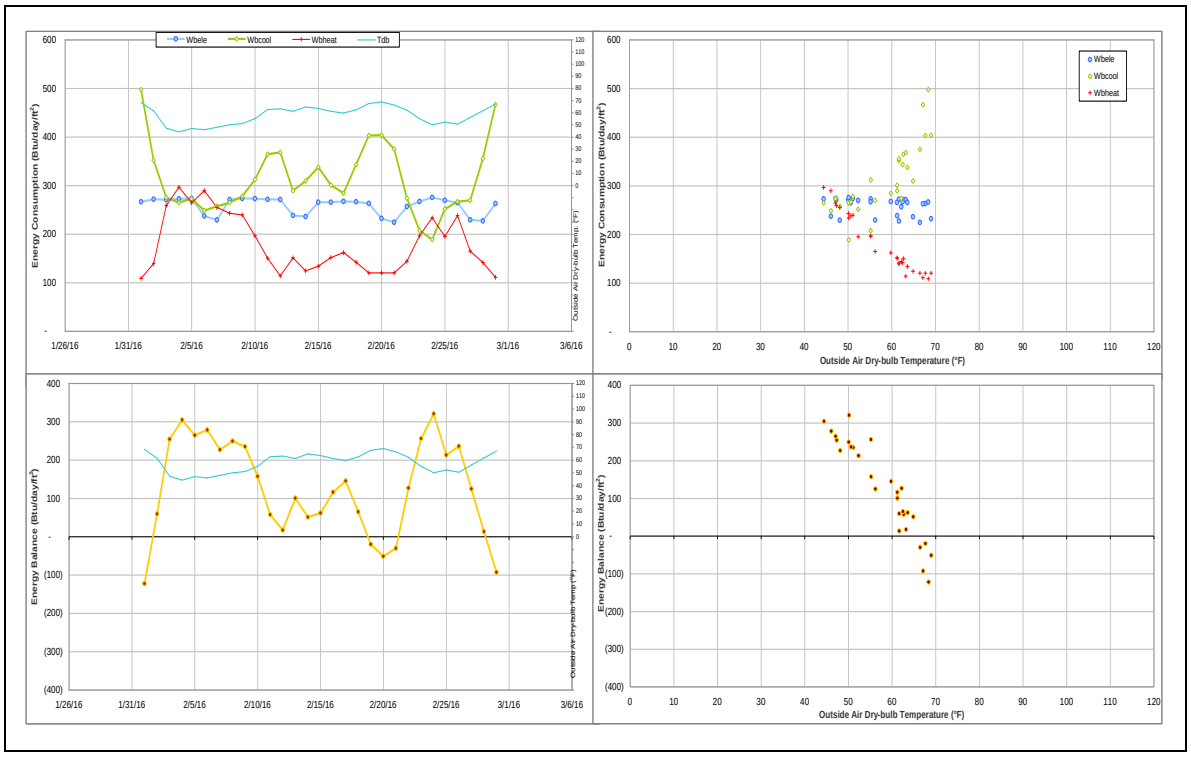
Explanatory Figure: Time series plots of hourly energy consumption, flow rate, and supply and return temperatures from the utilities office (HHW meter February 2016)



Energy balance plot using the original data for the month of analysis. Missing data have been filled in, if any.



Energy balance plot using the estimated data for the month of analysis



Biological Control Facility (TAMU Bldg #1146)

Estimated data

Energy Type	Meter ID	Number of Days	Period	Estimation Method
CHW	005887	14	2/16/2016-2/29/2016	Model

Detected issues in the energy balance and/or the consumption data

Data Type	Description of data behaviors	Period
CHW	The consumption increased and the recorded values seemed to be faulty.	2/16/2016-ongoing

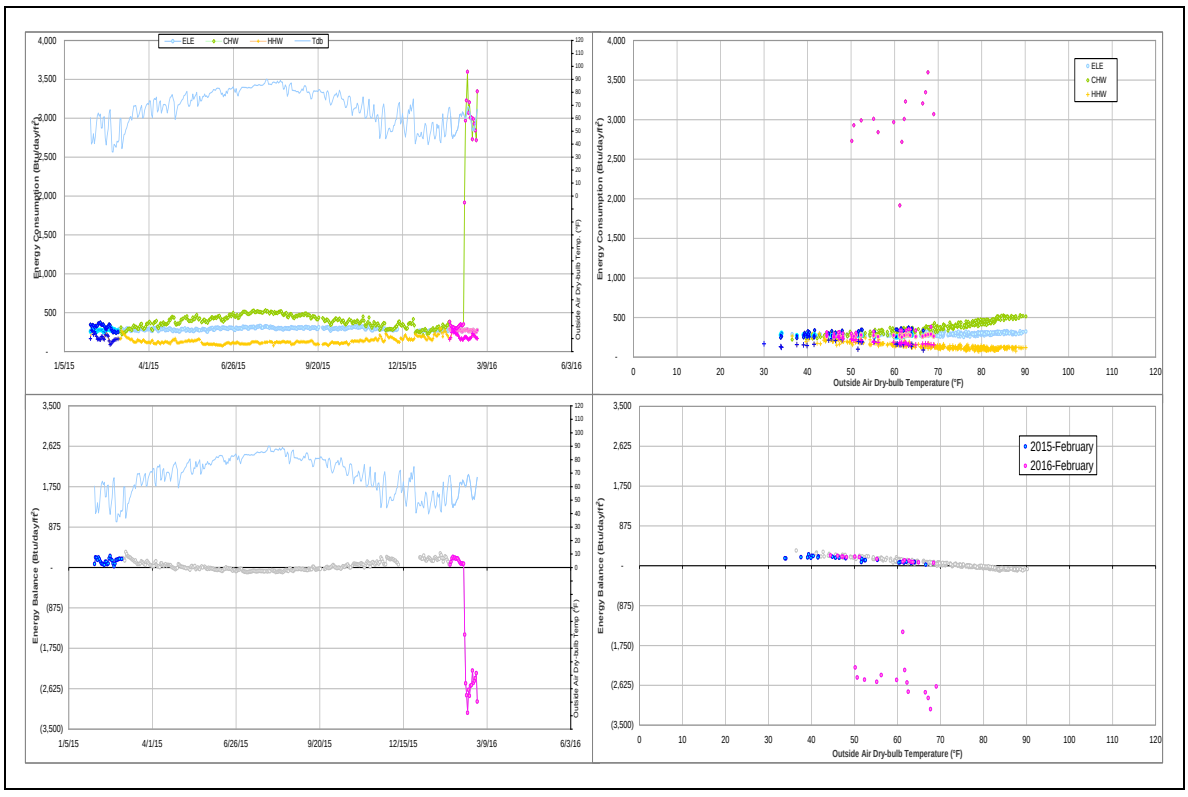
Changes in sensor readings related to the detected issues

Energy Type	Meter ID	Period	Type	Description
CHW	005887	2/16/2016-ongoing	Flow rate	Faulty; Increased and maintained at a constant value

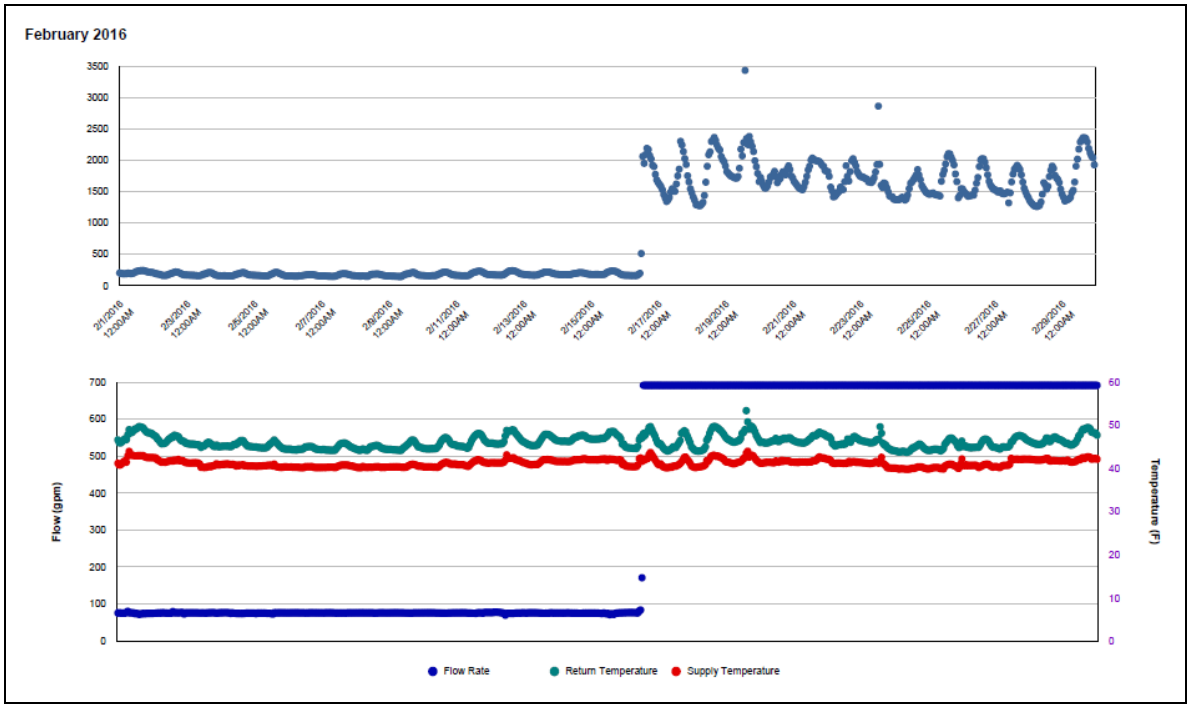
Quantitative descriptions and comments

CHW consumption increased by 200 – 600 Btu/day/ft^2 since 2/16/2016 because the flow rate increased and maintained at a constant value. The faulty consumption was estimated by a model.

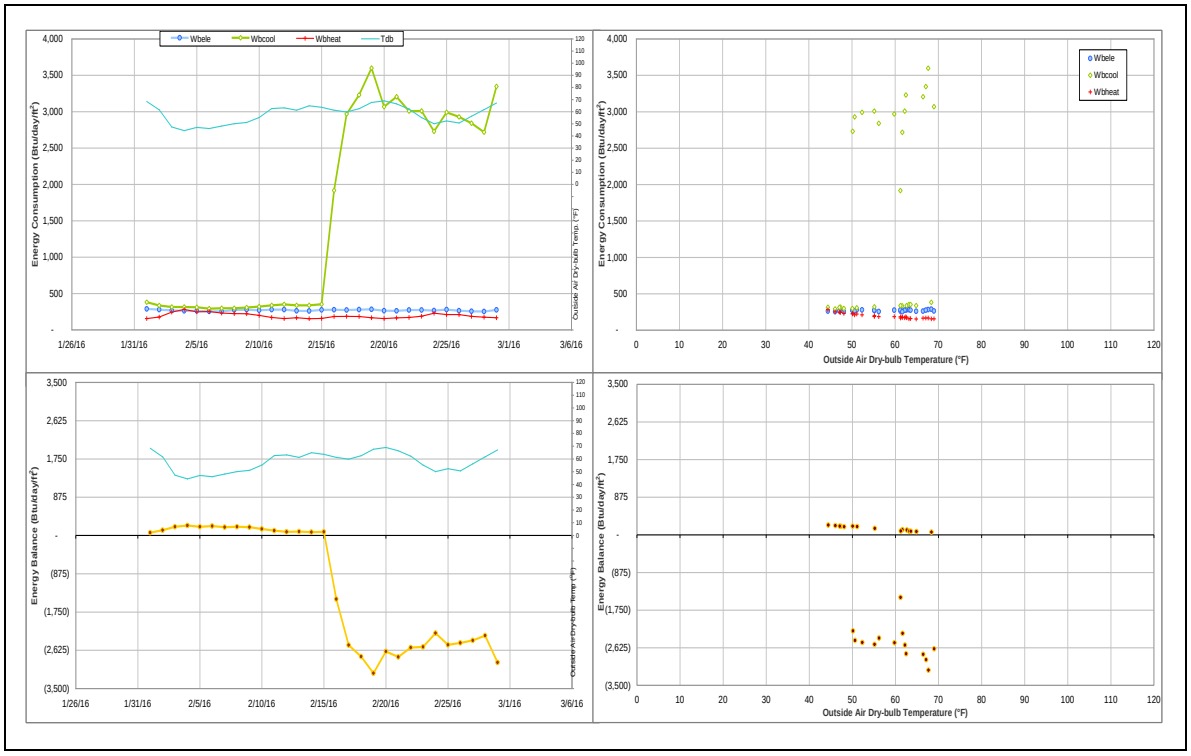
Explanatory Figure: 13 months energy balance plot with original data



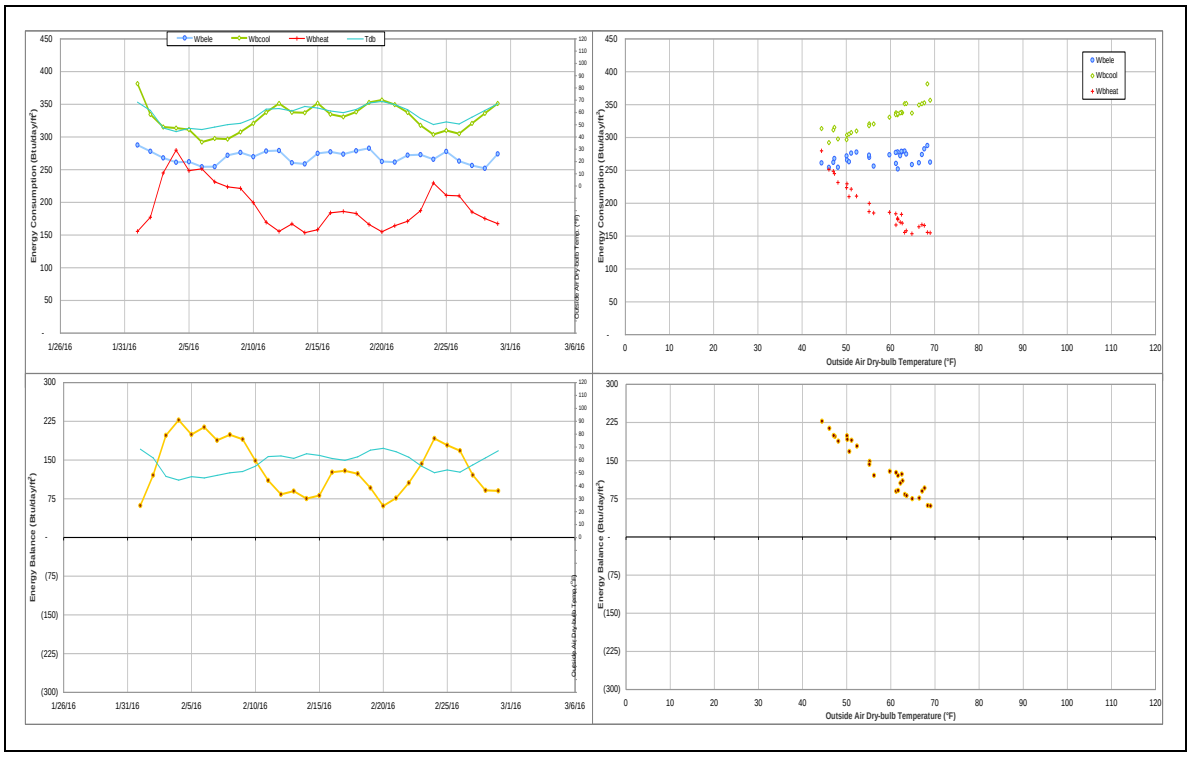
Explanatory Figure: Time series plots of hourly energy consumption, flow rate, and supply and return temperatures from the utilities office (CHW meter February 2016)



Energy balance plot using the original data for the month of analysis. Missing data have been filled in, if any.



Energy balance plot using the estimated data for the month of analysis



Physical Plant Administration & Shops (TAMU Bldg #1156)

Estimated data

Energy Type	Meter ID	Number of Days	Period	Estimation Method
CHW	007679	12	2/1/2016-2/12/2016	Model

Detected issues in the energy balance and/or the consumption data

Data Type	Description of data behaviors	Period
CHW	The consumption increased and the recorded values seemed to be faulty.	1/12/2016 – 2/12/2016

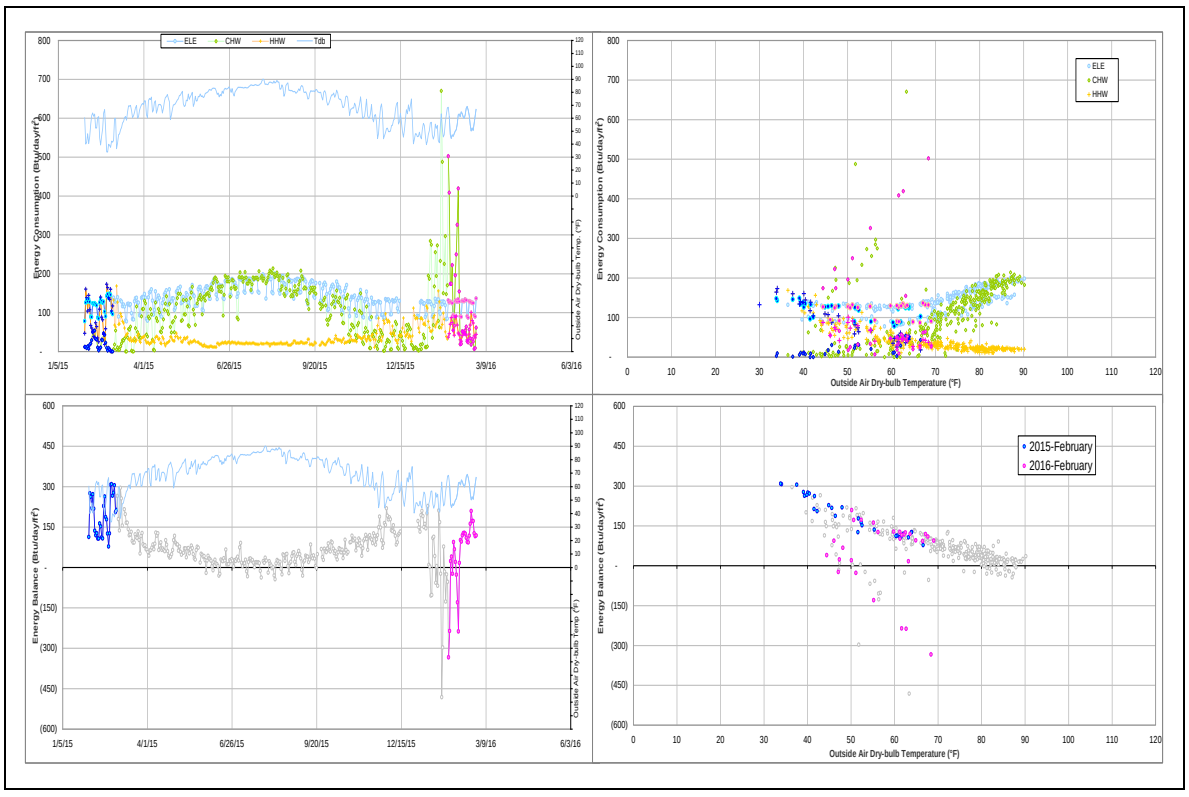
Changes in sensor readings related to the detected issues

Energy Type	Meter ID	Period	Type	Description
CHW	007679	1/12/2016 – 2/12/2016	Flow rate	Faulty; Increased and maintained at a constant value

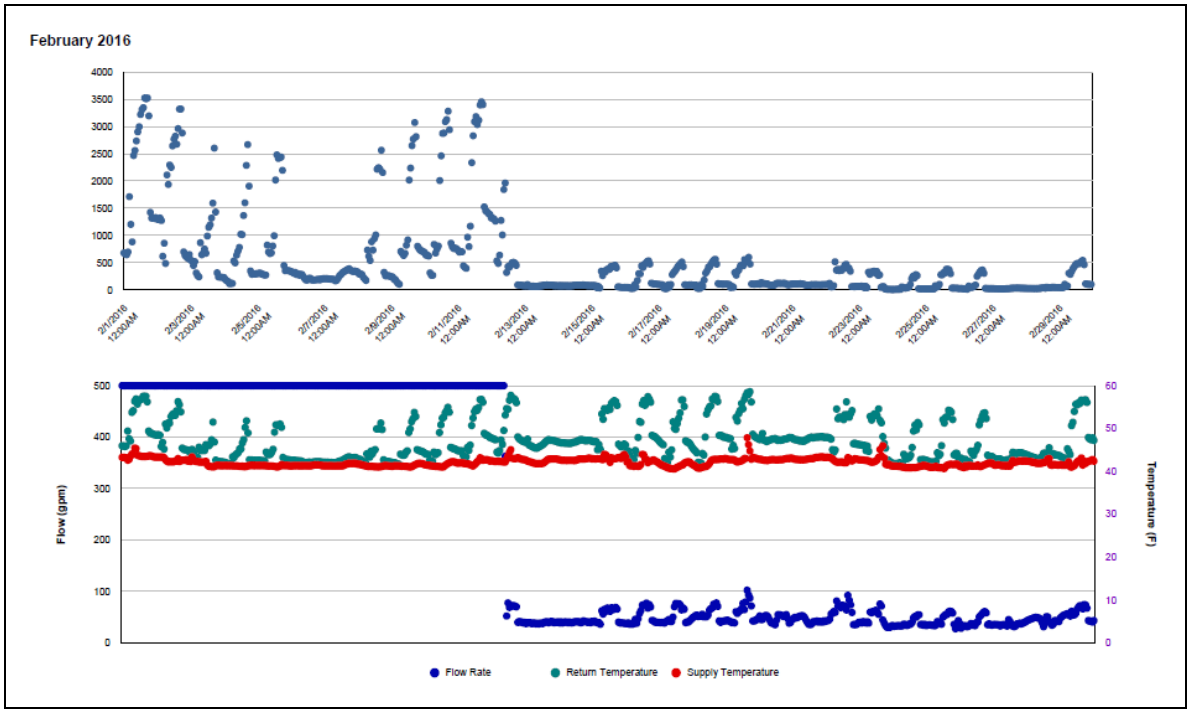
Quantitative descriptions and comments

CHW consumption increased by 200 – 600 Btu/day/ft^2 since 1/12/2016 because the flow rate increased and maintained at a constant value. The faulty consumption was estimated by a model.

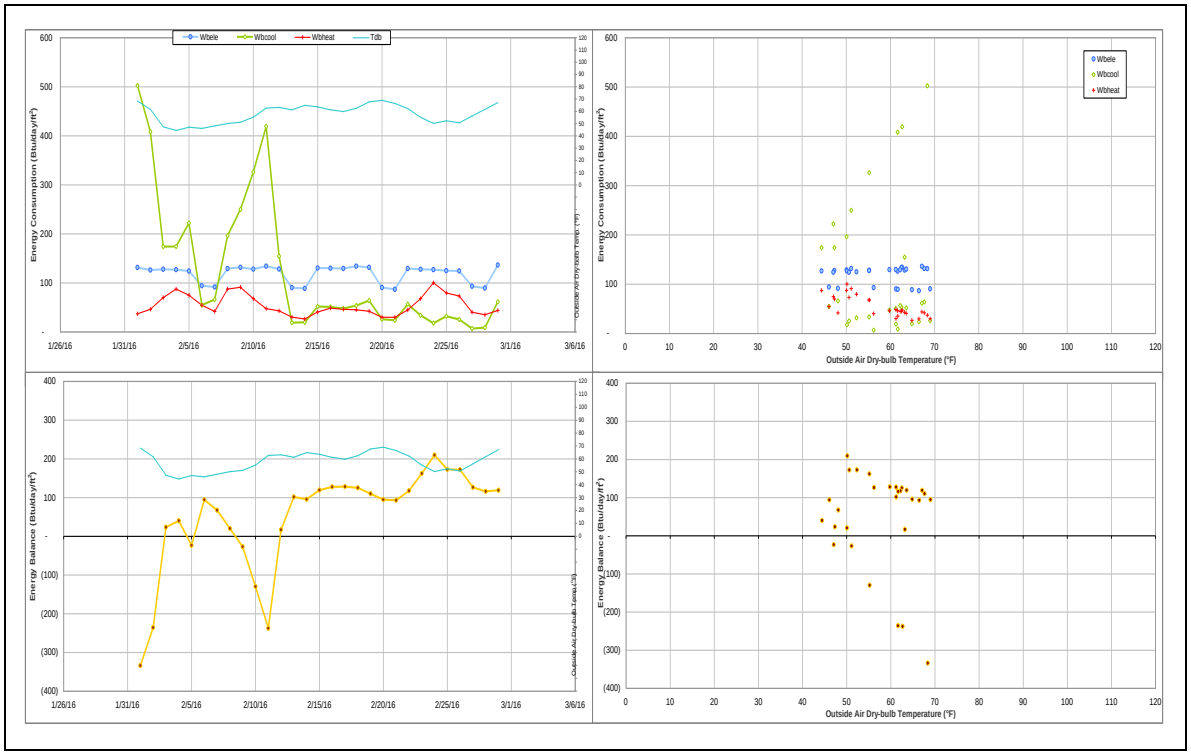
Explanatory Figure: 13 months energy balance plot with original data



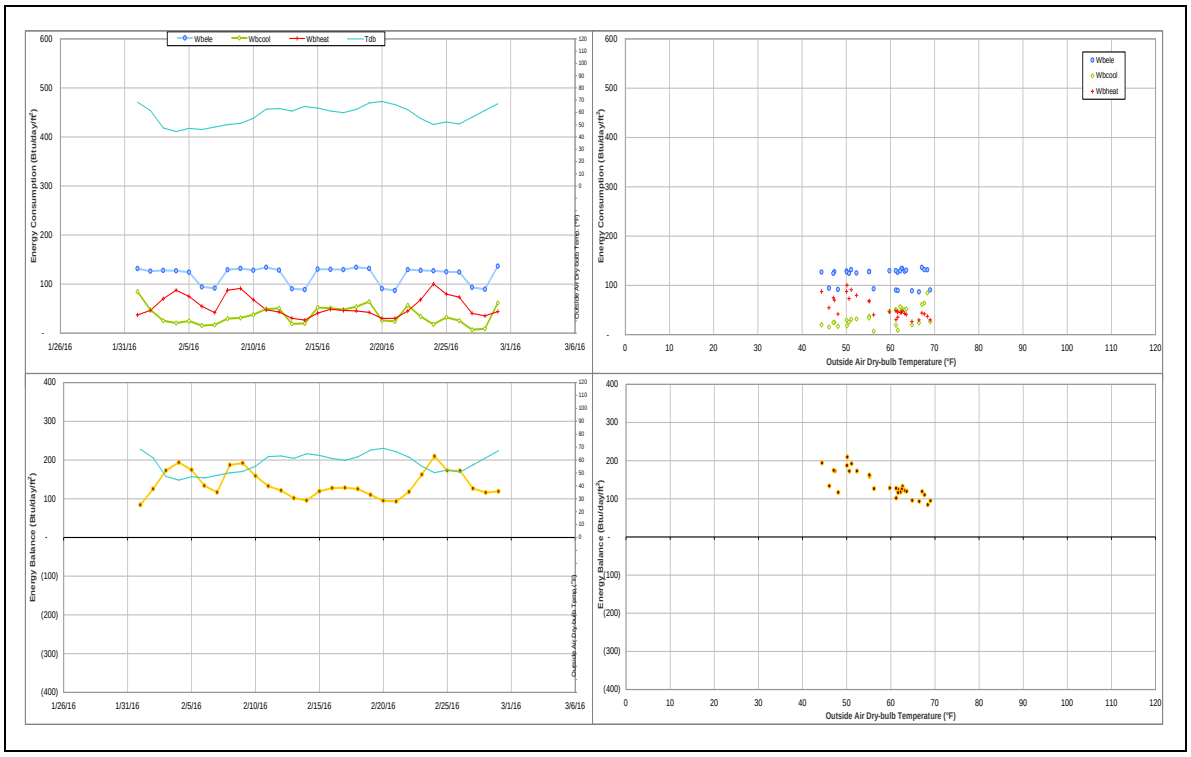
Explanatory Figure: Time series plots of hourly energy consumption, flow rate, and supply and return temperatures from the utilities office (CHW meter February 2016)



Energy balance plot using the original data for the month of analysis. Missing data have been filled in, if any.



Energy balance plot using the estimated data for the month of analysis



Medical Sciences Library (TAMU Bldg #1509)

Estimated data

Energy Type	Meter ID	Number of Days	Period	Estimation Method
HHW	003781	29	2/1/2016-2/29/2016	Model

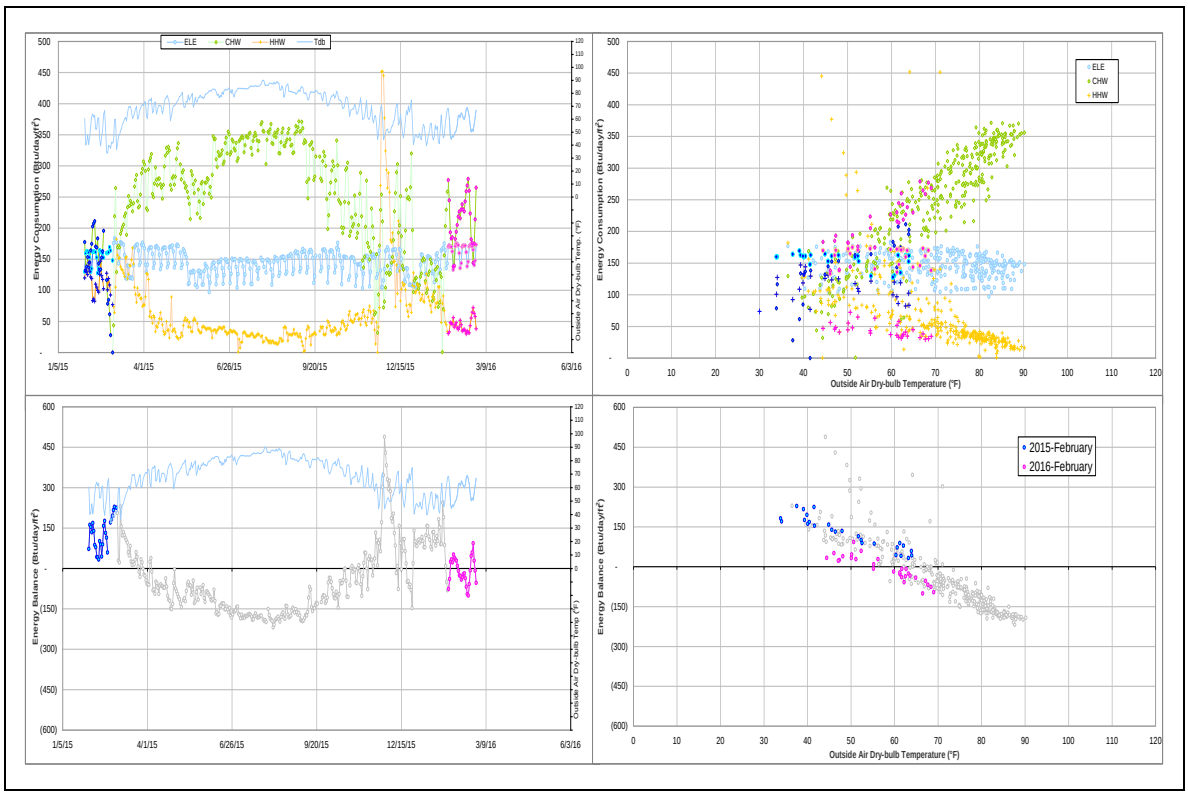
Detected issues in the energy balance and/or the consumption data

Data Type	Description of data behaviors	Period
HHW	The consumption level is lower than the level during the past year.	2/1/2016-2/29/2016

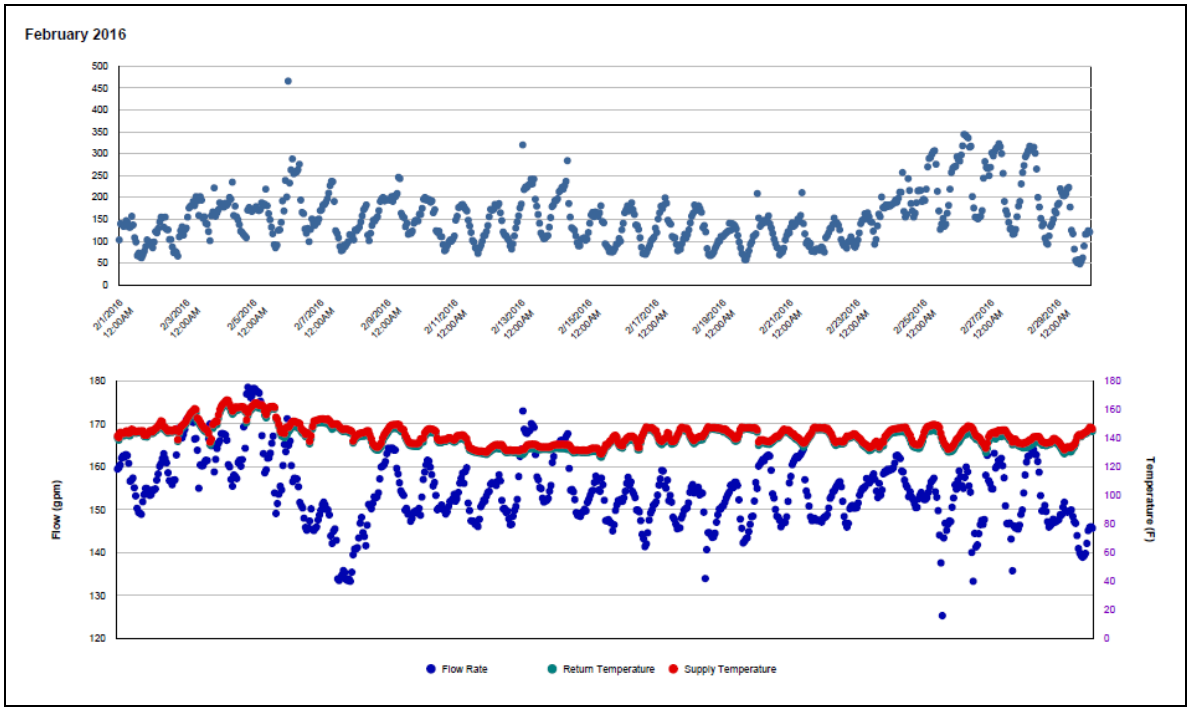
Quantitative descriptions and comments

HHW consumption level for current month is approximately 100 Btu/day/ft^2 lower than that of same month of last year. The cross-point temperature decreased to around 55°F. The consumption was estimated by a model.

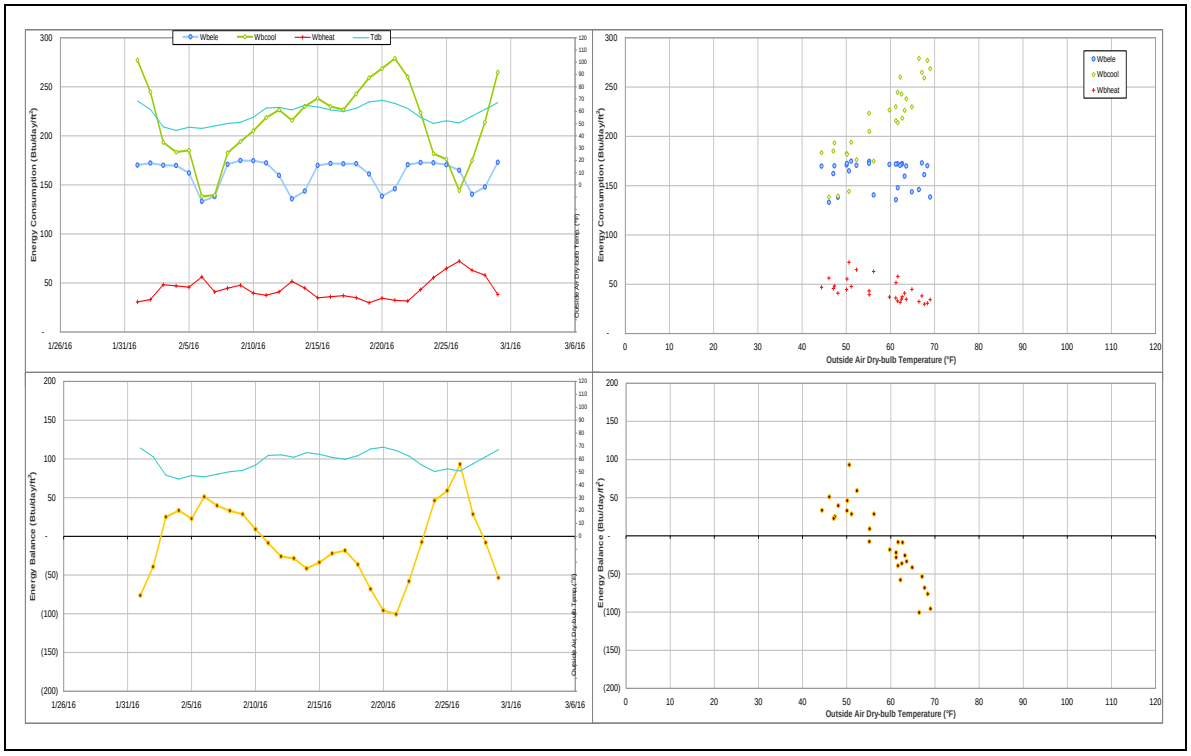
Explanatory Figure: 13 months energy balance plot with original data



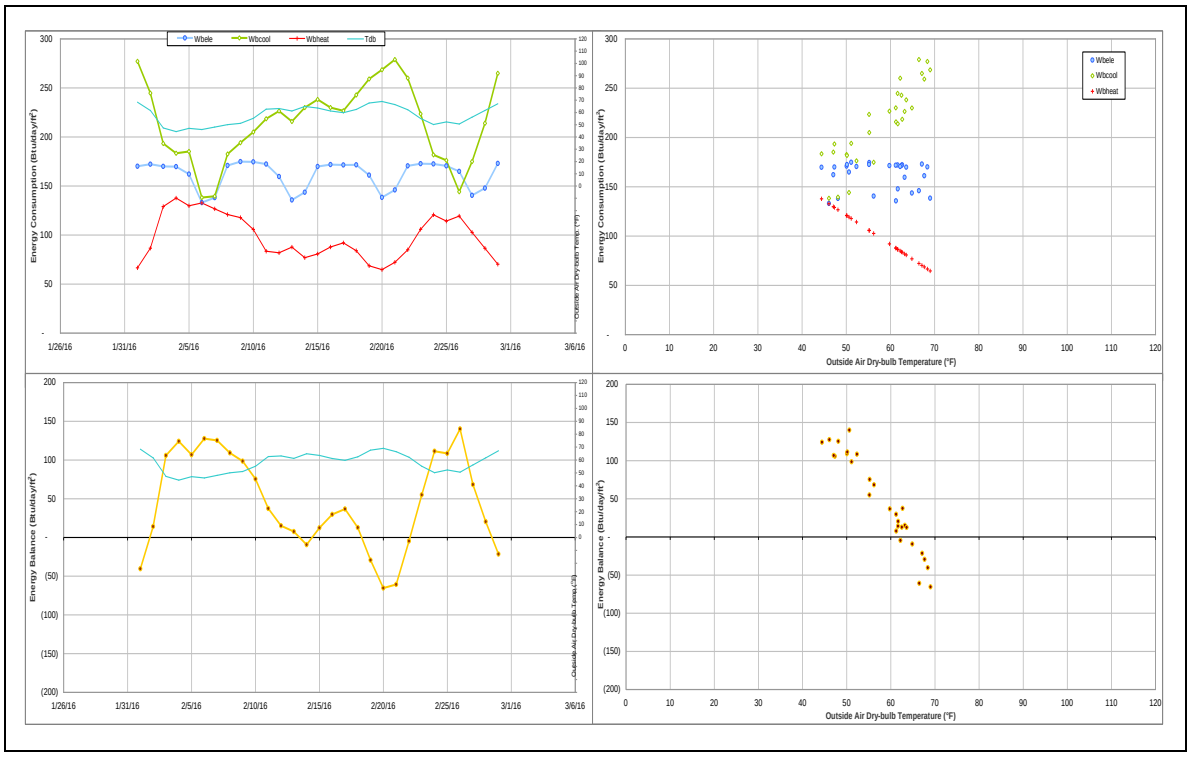
Explanatory Figure: Time series plots of hourly energy consumption, flow rate, and supply and return temperatures from the utilities office (HHW meter February 2016)



Energy balance plot using the original data for the month of analysis. Missing data have been filled in, if any.



Energy balance plot using the estimated data for the month of analysis



Southern Crop Improvement Greenhouse (TAMU Bldg #1512)

Estimated data

Energy Type	Meter ID	Number of Days	Period	Estimation Method
ELE	005931	29	2/1/2016 – 2/29/2016	Model

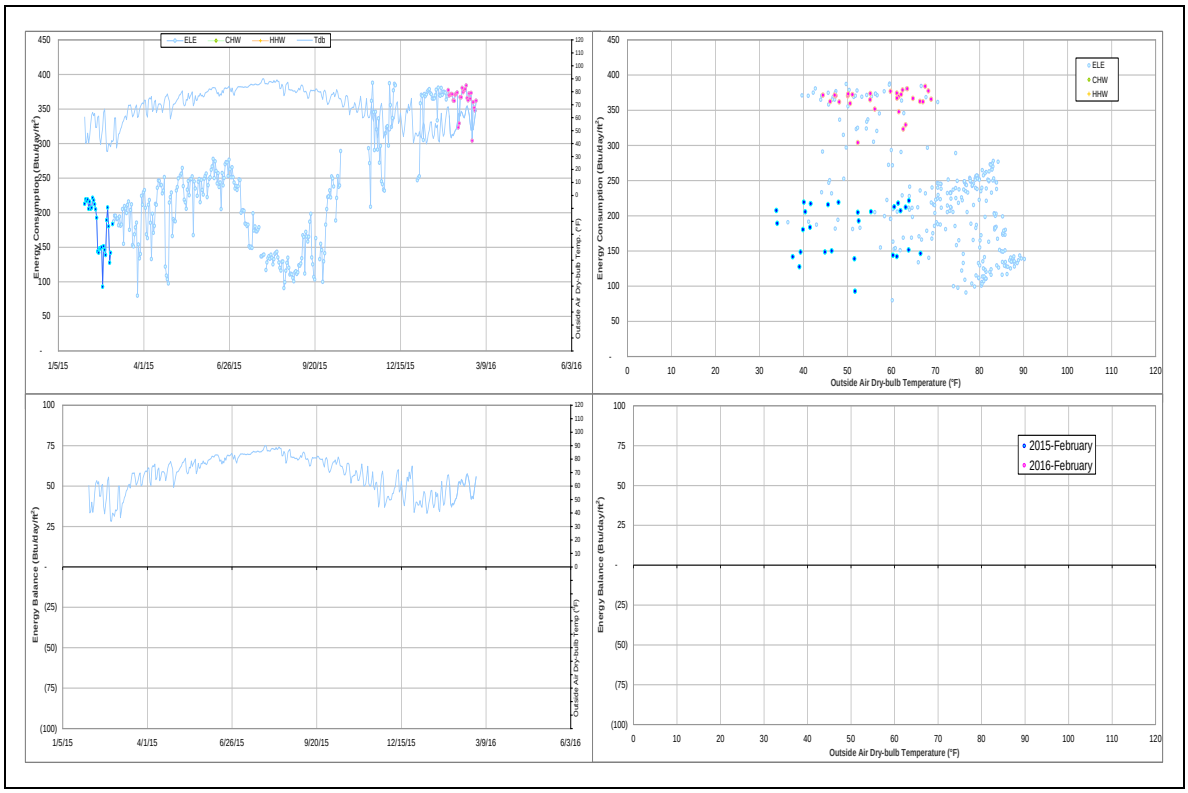
Detected issues in the energy balance and/or the consumption data

Data Type	Description of data behaviors	Period
ELE	The consumption decreased.	7/22/2015 – 10/3/2015
	The consumption increased.	11/13/2015 – ongoing

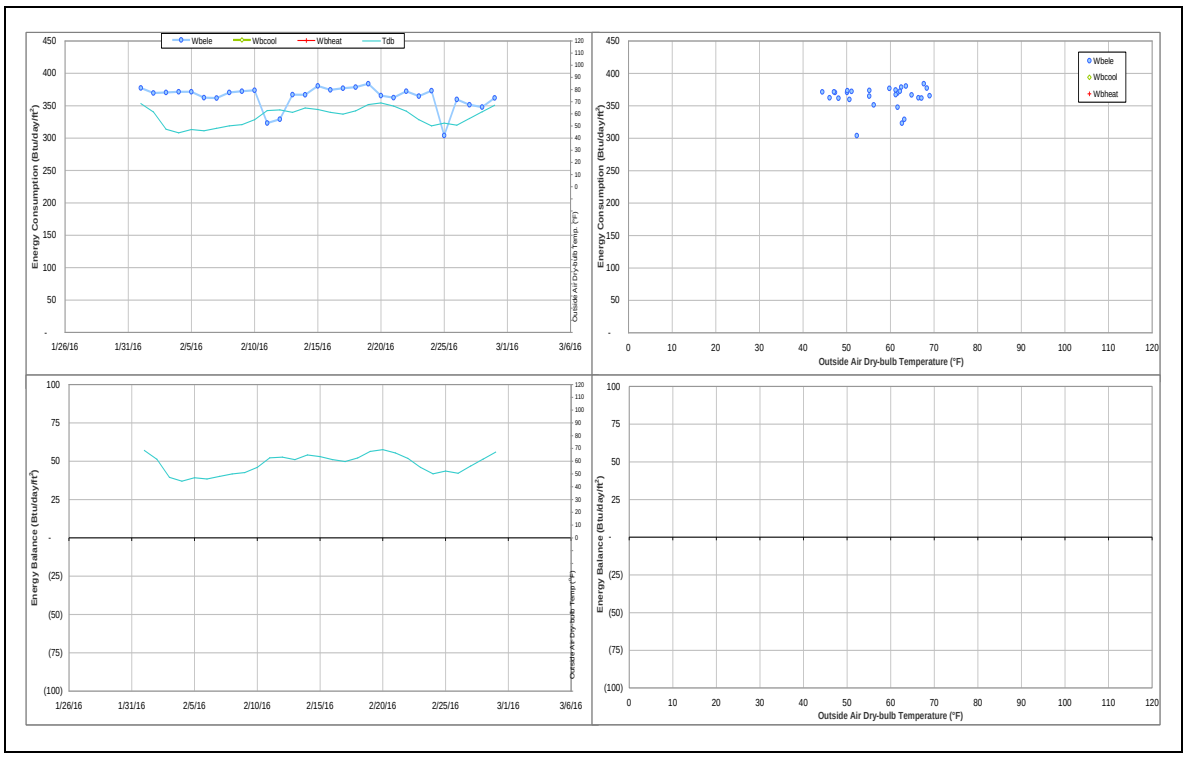
Quantitative descriptions and comments

The electricity consumption gradually decreased by approximately 120 Btu/day/ft^2 (~50%) since July 2015. It seemed that the building peak demand decreased during this period. The consumption level increased back after 10/3/2015. But it increased largely (50 – 200 Btu/day/ft^2) after 11/13/2015. The consumption for entire month was estimated by a model based on the data during 7/1/2014 – 6/30/2015.

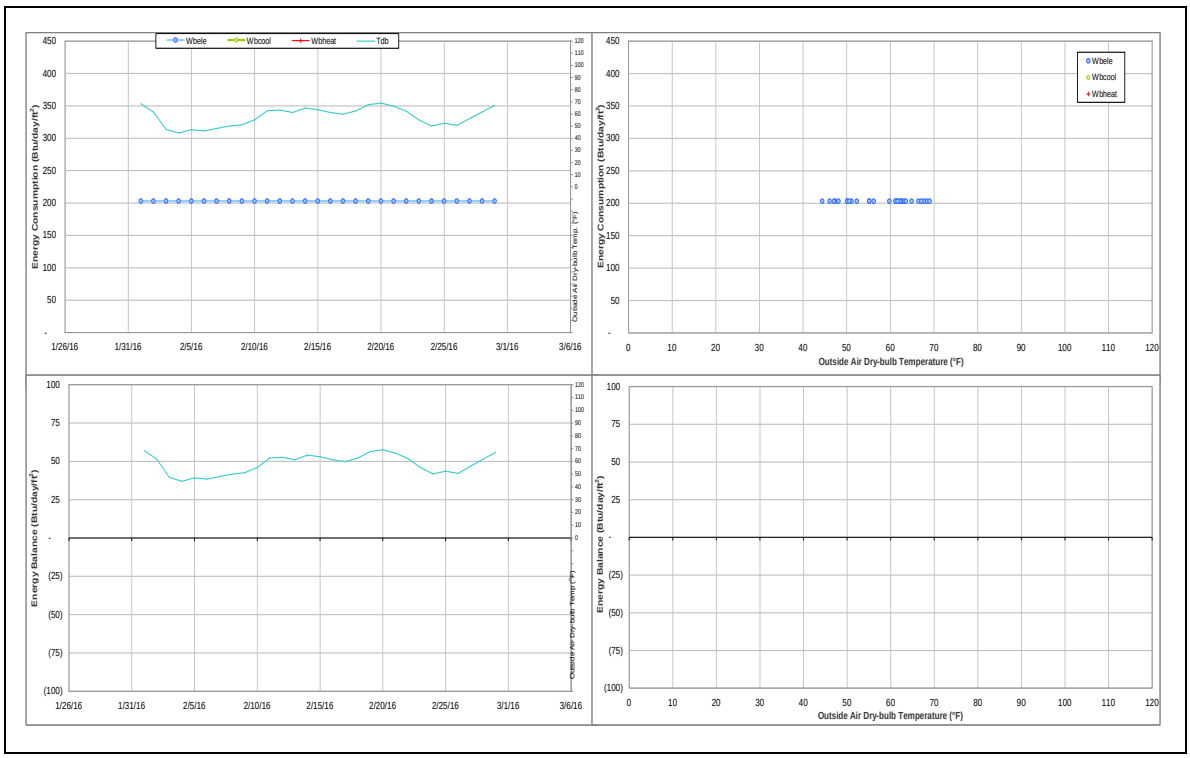
Explanatory Figure: 13 months energy balance plot with original data



Energy balance plot using the original data for the month of analysis.



Energy balance plot using the estimated data for the month of analysis



TX School of Rural Public Health (TAMU Bldg # 1518, 1519, 1520)

Detected issues in the energy balance and/or the consumption data

Data Type	Description of data behaviors	Period
ELE (005274)	The consumption level increased largely.	8/14/2015 - ongoing
ELE (005275)	The consumption level decreased largely.	8/14/2015 - ongoing

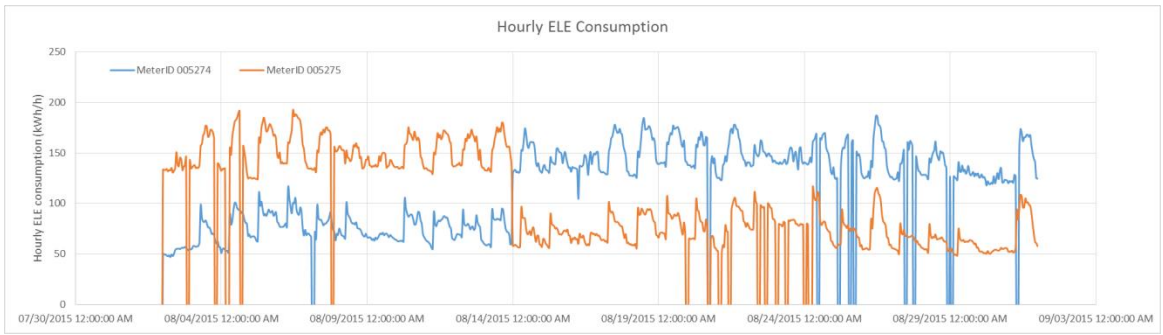
Comments

ELE meter (ID# 005274) is serve for TX School of Rural Public Health B and ELE meter (ID# 005275) is for TX School of Rural Public Health C.

The ELE consumption levels for these two meters have a sudden change on 8/14/2015. The consumption level for meterID 005274 increased by approximate 80 kWh/h (~ 100%) and the consumption level for meter ID 005275 decreased by around 80 kWh/h (~50%).

It was observed that the cumulative reading for these two meters switched on 8/14/2015 12:00 AM. It is suggested to investigate these two meters.

Explanatory Figure: The time series plot of hourly electricity consumption for two ELE meters #005274 and# 005275



Explanatory Figure: The time series plot of hourly electricity consumption for two ELE meters #005274 and# 005275

Time	Cumulative reading	Hourly Consumption	MeterID		Time	Cumulative reading	Hourly Consumption	MeterID
08/13/2015 12:00:00 PM	2930884.013	84.262	005274		08/13/2015 12:00:00 PM	4741958.002	170.658	005275
08/13/2015 01:00:00 PM	2930968.589	84.576	005274		08/13/2015 01:00:00 PM	4742132.336	174.334	005275
08/13/2015 02:00:00 PM	2931051.959	83.37	005274		08/13/2015 02:00:00 PM	4742303.554	171.218	005275
08/13/2015 03:00:00 PM	2931146.799	94.84	005274		08/13/2015 03:00:00 PM	4742483.683	180.129	005275
08/13/2015 04:00:00 PM	2931240.505	93.706	005274		08/13/2015 04:00:00 PM	4742662.753	179.07	005275
08/13/2015 05:00:00 PM	2931324.169	83.664	005274		08/13/2015 05:00:00 PM	4742832.009	169.256	005275
08/13/2015 06:00:00 PM	2931399.91	75.741	005274		08/13/2015 06:00:00 PM	4742993.53	161.521	005275
08/13/2015 07:00:00 PM	2931472.181	72.271	005274		08/13/2015 07:00:00 PM	4743149.675	156.145	005275
08/13/2015 08:00:00 PM	2931543.838	71.657	005274		08/13/2015 08:00:00 PM	4743305.9	156.225	005275
08/13/2015 09:00:00 PM	2931613.306	69.468	005274		08/13/2015 09:00:00 PM	4743462.097	156.197	005275
08/13/2015 10:00:00 PM	2931672.706	59.4	005274		08/13/2015 10:00:00 PM	4743610.221	148.124	005275
08/13/2015 11:00:00 PM	2931733.072	60.366	005274		08/13/2015 11:00:00 PM	4743745.645	135.424	005275
08/14/2015 12:00:00 AM	4743876.03	130.385	005274		08/14/2015 12:00:00 AM	2931791.19	58.118	005275
08/14/2015 01:00:00 AM	4744008.406	132.376	005274		08/14/2015 01:00:00 AM	2931849.35	58.16	005275
08/14/2015 02:00:00 AM	4744141.74	133.334	005274		08/14/2015 02:00:00 AM	2931908.534	59.184	005275
08/14/2015 03:00:00 AM	4744272.553	130.813	005274		08/14/2015 03:00:00 AM	2931966.686	58.152	005275
08/14/2015 04:00:00 AM	4744404.045	131.492	005274		08/14/2015 04:00:00 AM	2932023.589	56.903	005275
08/14/2015 05:00:00 AM	4744534.38	130.335	005274		08/14/2015 05:00:00 AM	2932080.05	56.461	005275
08/14/2015 06:00:00 AM	4744667.111	132.731	005274		08/14/2015 06:00:00 AM	2932137.05	57	005275
08/14/2015 07:00:00 AM	4744820.038	152.927	005274		08/14/2015 07:00:00 AM	2932232.983	95.933	005275
08/14/2015 08:00:00 AM	4744972.221	152.183	005274		08/14/2015 08:00:00 AM	2932319.162	86.179	005275
08/14/2015 09:00:00 AM	4745134.467	162.246	005274		08/14/2015 09:00:00 AM	2932404.691	85.529	005275
08/14/2015 10:00:00 AM	4745308.905	174.438	005274		08/14/2015 10:00:00 AM	2932489.976	85.285	005275
08/14/2015 11:00:00 AM	4745476.832	167.927	005274		08/14/2015 11:00:00 AM	2932564.419	74.443	005275
08/14/2015 12:00:00 PM	4745634.44	157.608	005274		08/14/2015 12:00:00 PM	2932634.064	69.645	005275
08/14/2015 01:00:00 PM	4745789.345	154.905	005274		08/14/2015 01:00:00 PM	2932704.723	70.659	005275
08/14/2015 02:00:00 PM	4745949.369	160.024	005274		08/14/2015 02:00:00 PM	2932777.373	72.65	005275
08/14/2015 03:00:00 PM	4746110.346	160.977	005274		08/14/2015 03:00:00 PM	2932845.908	68.535	005275
08/14/2015 04:00:00 PM	4746270.903	160.557	005274		08/14/2015 04:00:00 PM	2932920.525	74.617	005275
08/14/2015 05:00:00 PM	4746431.347	160.444	005274		08/14/2015 05:00:00 PM	2932996.835	76.31	005275
08/14/2015 06:00:00 PM	4746586.415	155.068	005274		08/14/2015 06:00:00 PM	2933065.518	68.683	005275
08/14/2015 07:00:00 PM	4746727.476	141.061	005274		08/14/2015 07:00:00 PM	2933127.559	62.041	005275
08/14/2015 08:00:00 PM	4746864.372	136.896	005274		08/14/2015 08:00:00 PM	2933195.384	67.825	005275
08/14/2015 09:00:00 PM	4747004.372	140	005274		08/14/2015 09:00:00 PM	2933263.632	68.248	005275
08/14/2015 10:00:00 PM	4747137.886	133.514	005274		08/14/2015 10:00:00 PM	2933323.26	59.628	005275
08/14/2015 11:00:00 PM	4747269.569	131.683	005274		08/14/2015 11:00:00 PM	2933382.3	59.04	005275

Reed Arena (TAMU Bldg #1554)

Estimated data

Energy Type	Meter ID	Number of Days	Period	Estimation Method
ELE	006243	29	2/1/2016-2/29/2016	Model

Detected issues in the energy balance and/or the consumption data

Data Type	Description of data behaviors	Period
ELE	The consumption decreased largely.	2/1/2016-ongoing

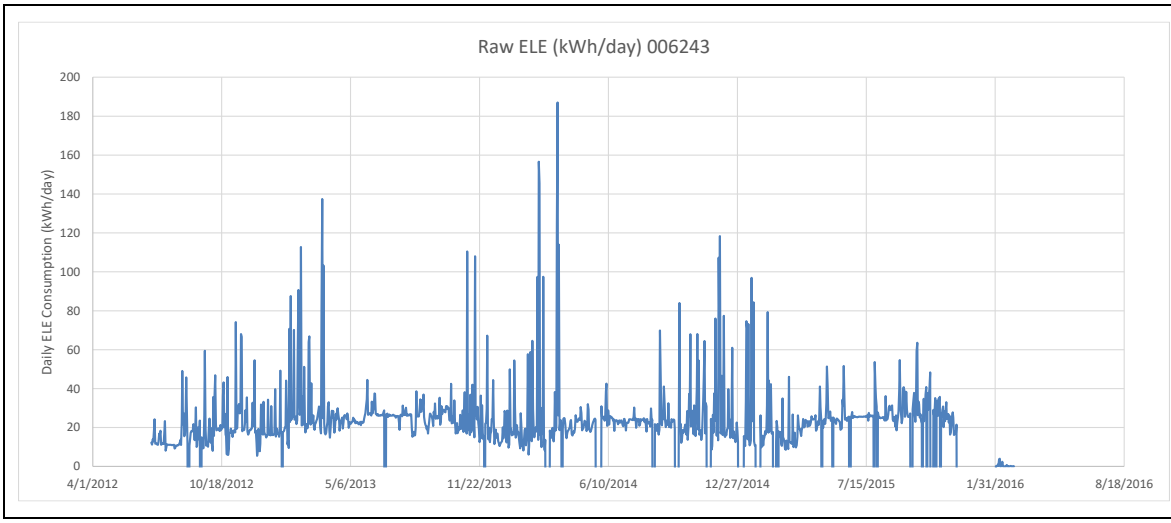
Changes in sensor readings related to the detected issues

Energy Type	Meter ID	Period	Type	Description
HHW	004327	2/19/2016-ongoing	Flow rate	Decreased to zero

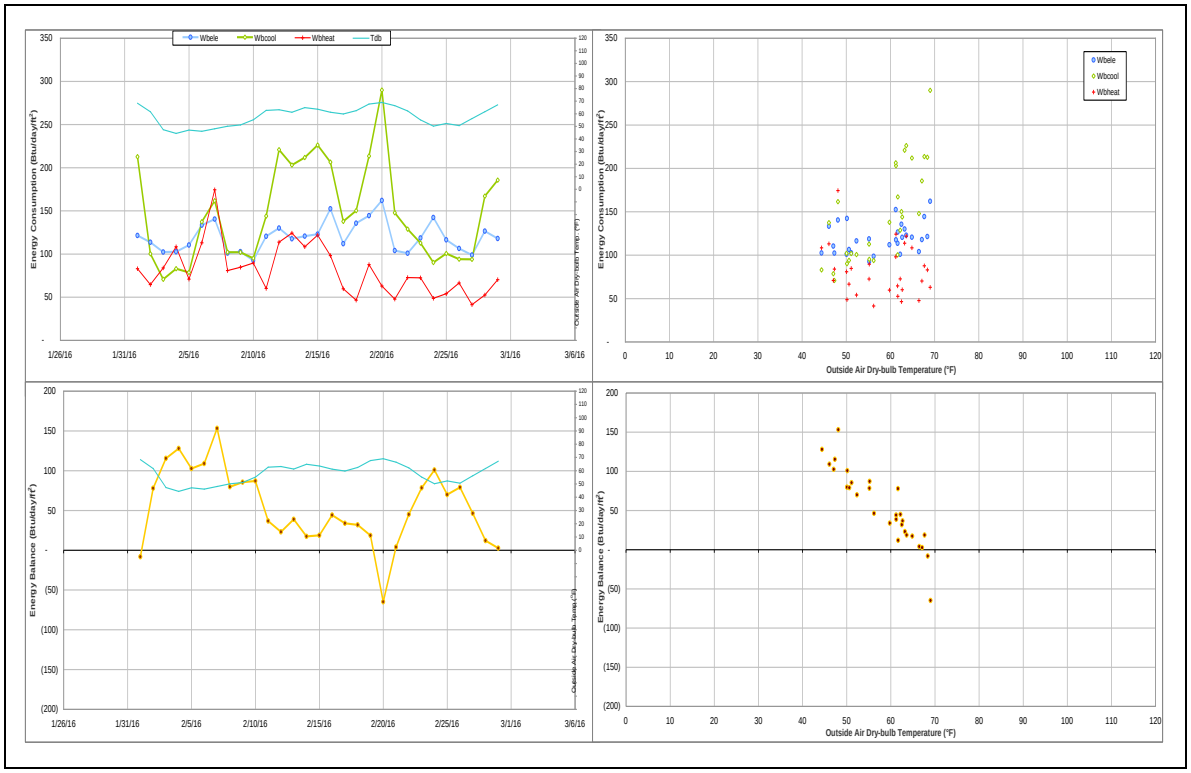
Quantitative descriptions and comments

There are three ELE meters for this building. The consumption for one of them (ELE MID 006243) only counts for around 0.3% of total ELE consumption for this building. The consumption for ELE MID 006243 decreased to nearly zero since this month. However, it doesn't affect the energy balance. The consumption was estimated by a model.

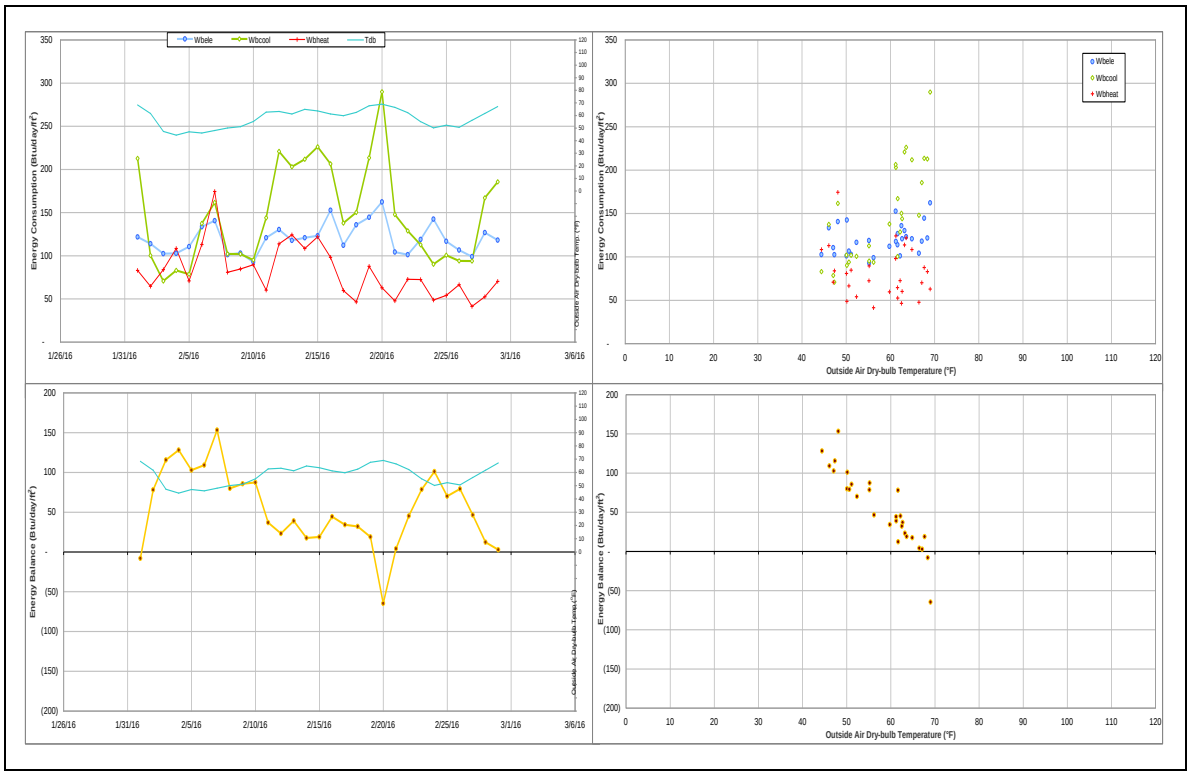
Explanatory Figure: Time series plot for ELE meter 006243



Energy balance plot using the original data for the month of analysis. Missing data have been filled in, if any.



Energy balance plot using the estimated data for the month of analysis



West Campus Parking Garage (TAMU Bldg #1559)

Estimated data

Energy Type	Meter ID	Number of Days	Period	Estimation Method
HHW	004327	11	2/19/2016-2/29/2016	Model

Detected issues in the energy balance and/or the consumption data

Data Type	Description of data behaviors	Period
HHW	The consumption decreased largely.	2/19/2016-ongoing

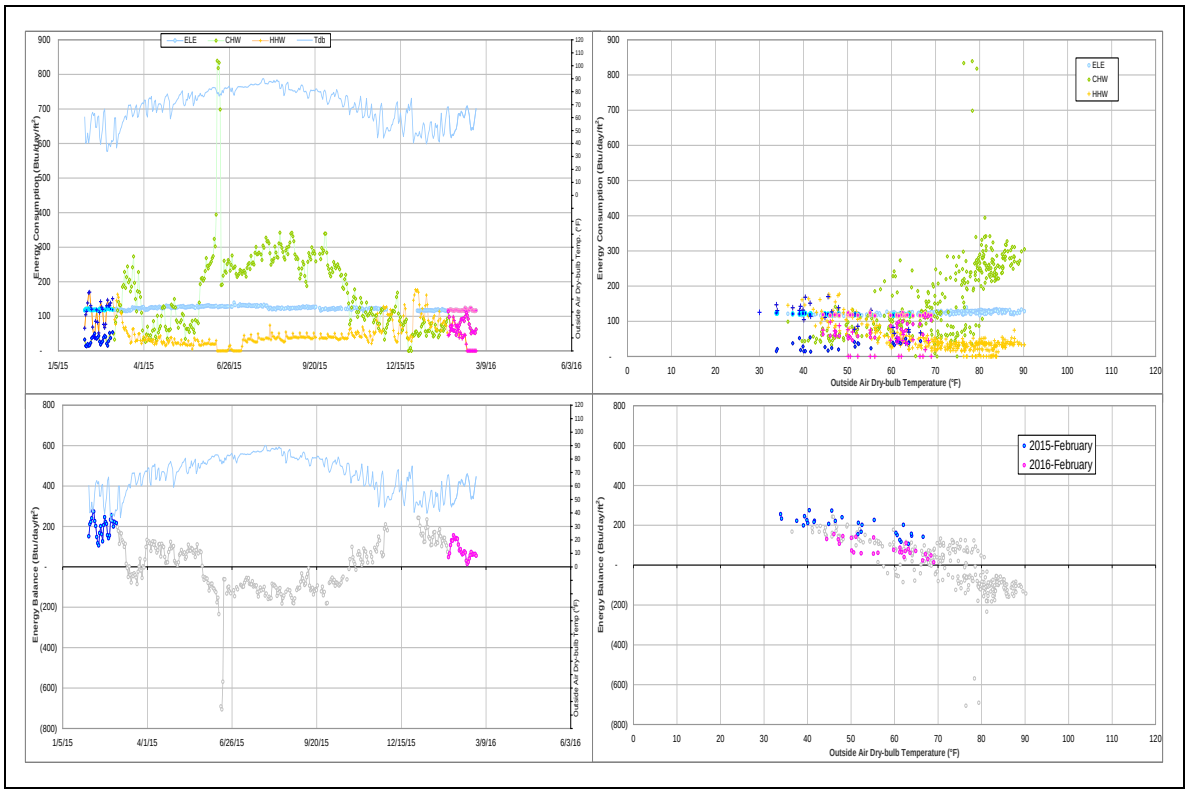
Changes in sensor readings related to the detected issues

Energy Type	Meter ID	Period	Type	Description
HHW	004327	2/19/2016-ongoing	Flow rate	Decreased to zero

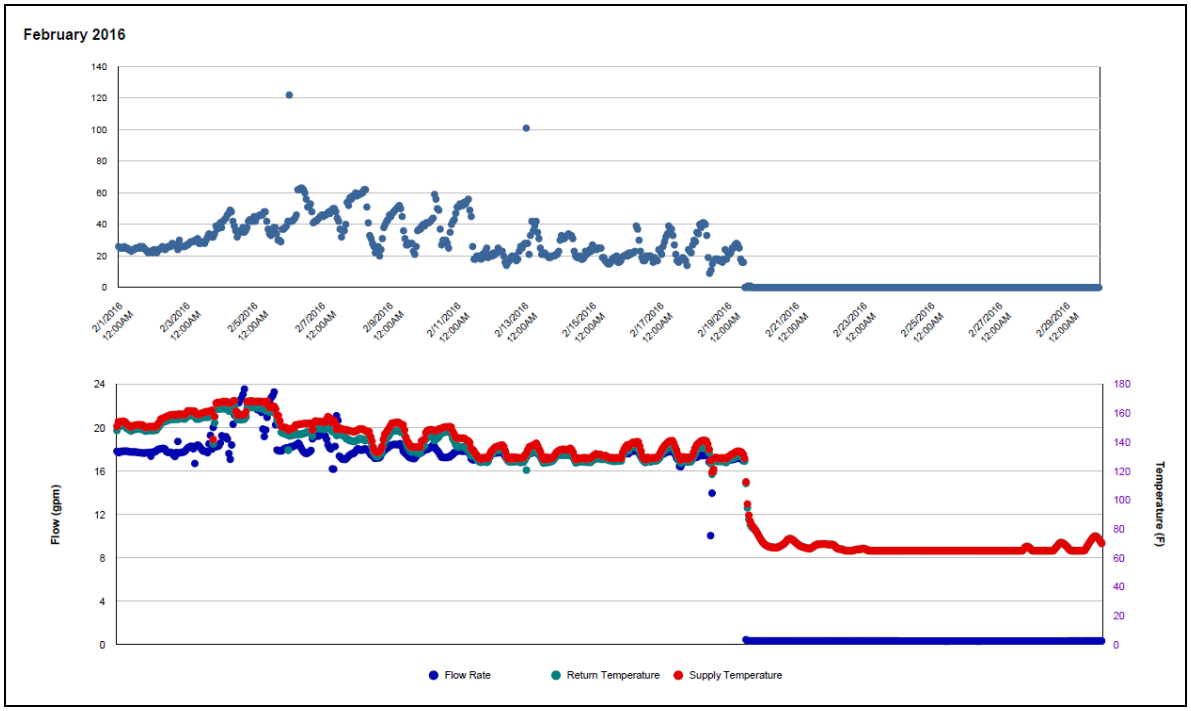
Quantitative descriptions and comments

HHW consumption decreased largely and was recorded as zero since 2/19/2016 due to zero reading of flow rate. The decreased consumption was estimated by a model.

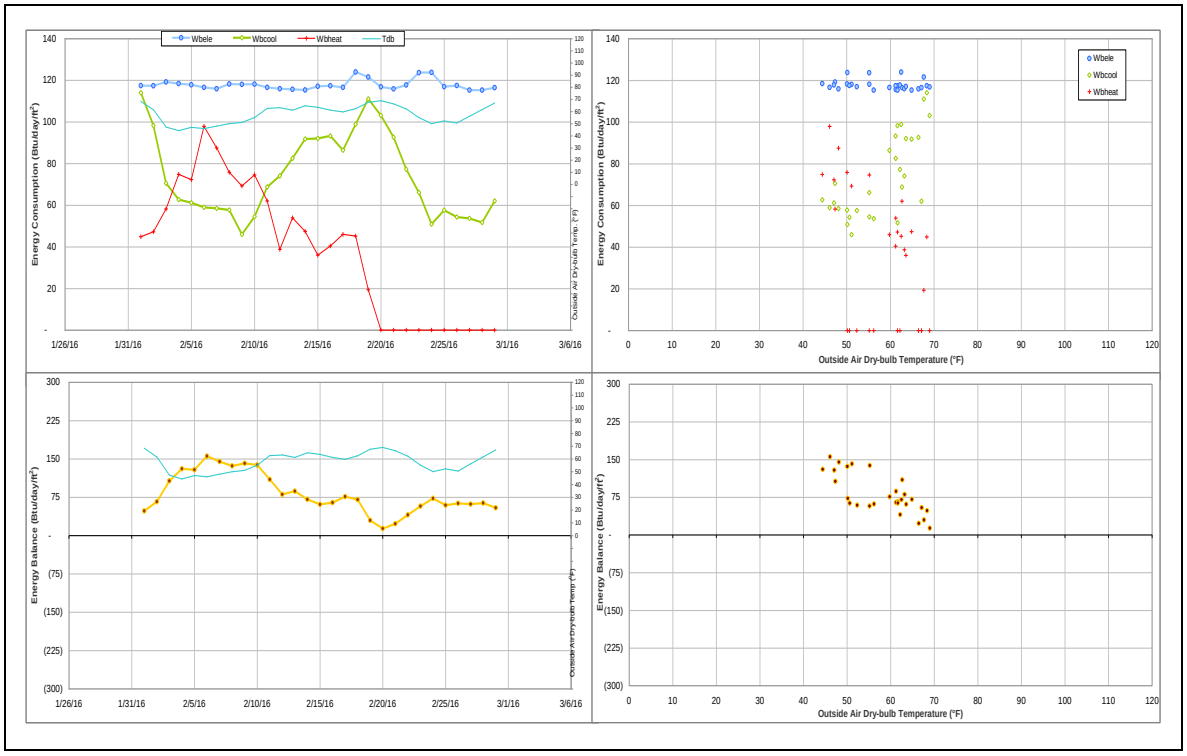
Explanatory Figure: 13 months energy balance plot with original data



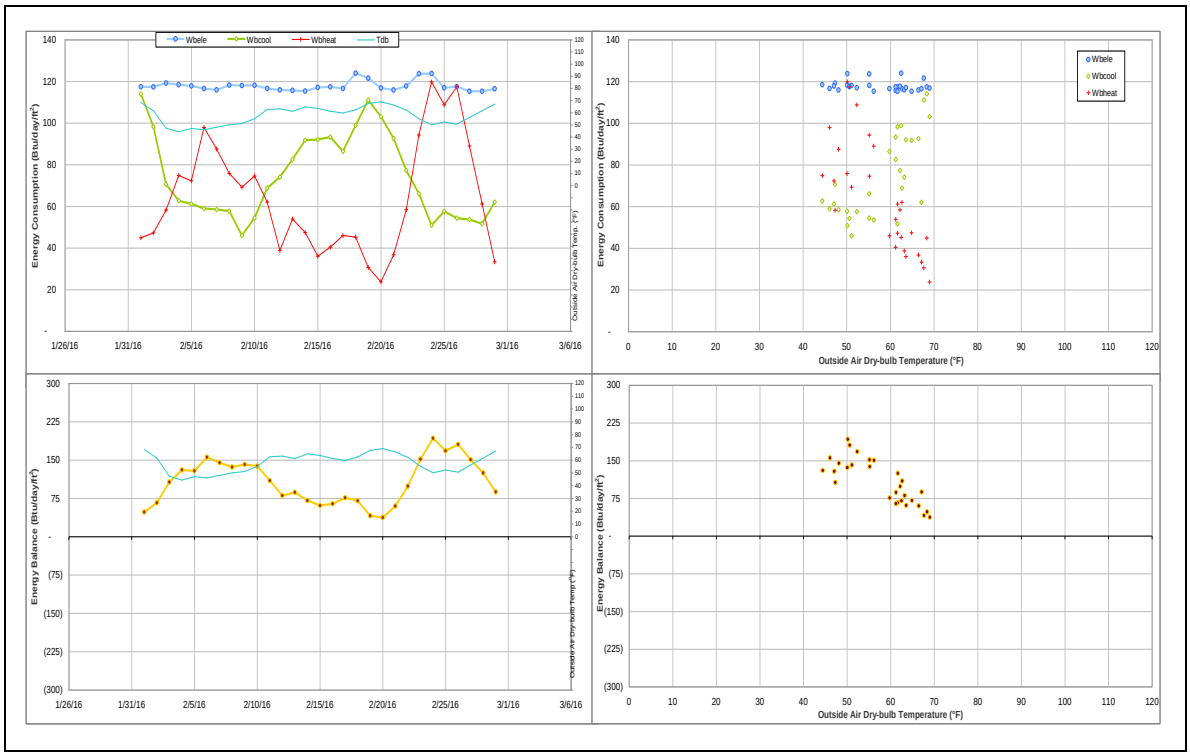
Explanatory Figure: Time series plots of hourly energy consumption, flow rate, and supply and return temperatures from the utilities office (HHW meter February 2016)



Energy balance plot using the original data for the month of analysis. Missing data have been filled in, if any.



Energy balance plot using the estimated data for the month of analysis



Office of the State Chemist Building (TAMU Bldg #1810)

Estimated data

Energy Type	Meter ID	Number of Days	Period	Estimation Method
ELE	009073	29	2/1/2016 -2/29/2016	Factor

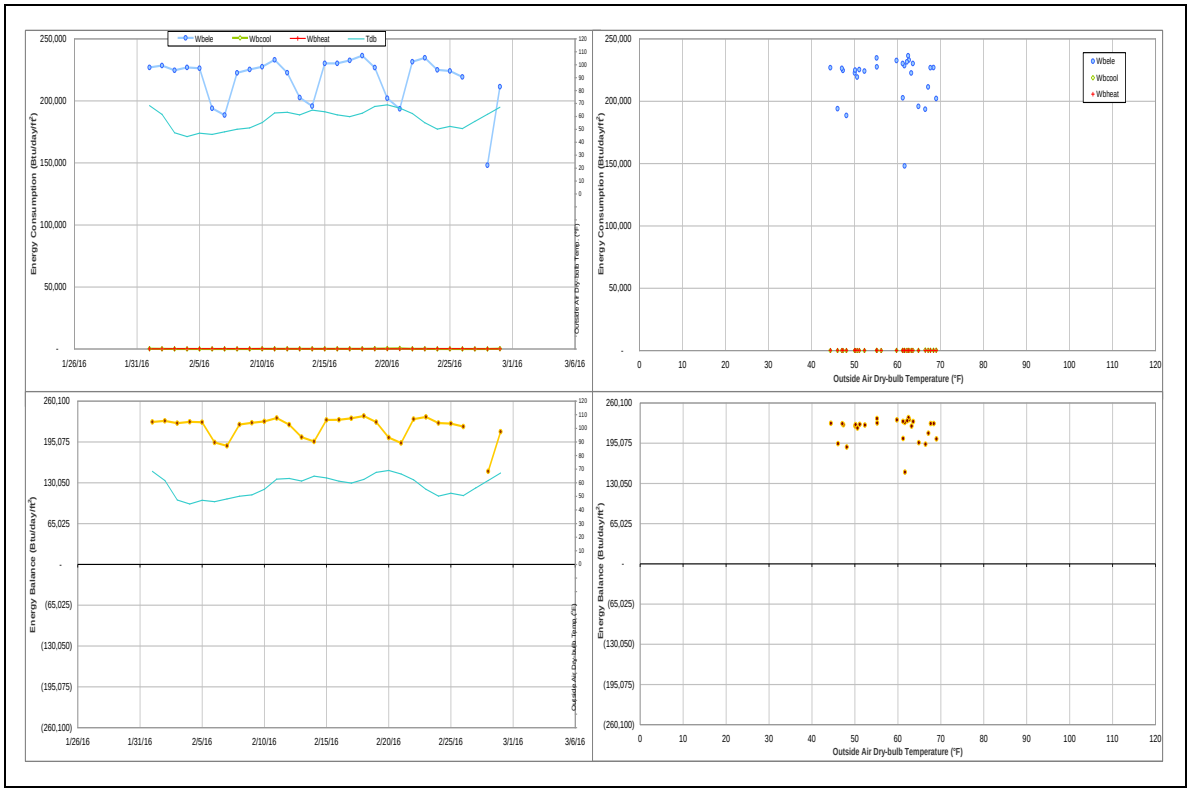
Detected issues in the energy balance and/or the consumption data

Data Type	Description of data behaviors	Period
ELE	The consumption level seemed to be too high. The metered values appear to be faulty.	2/1/2016 – ongoing

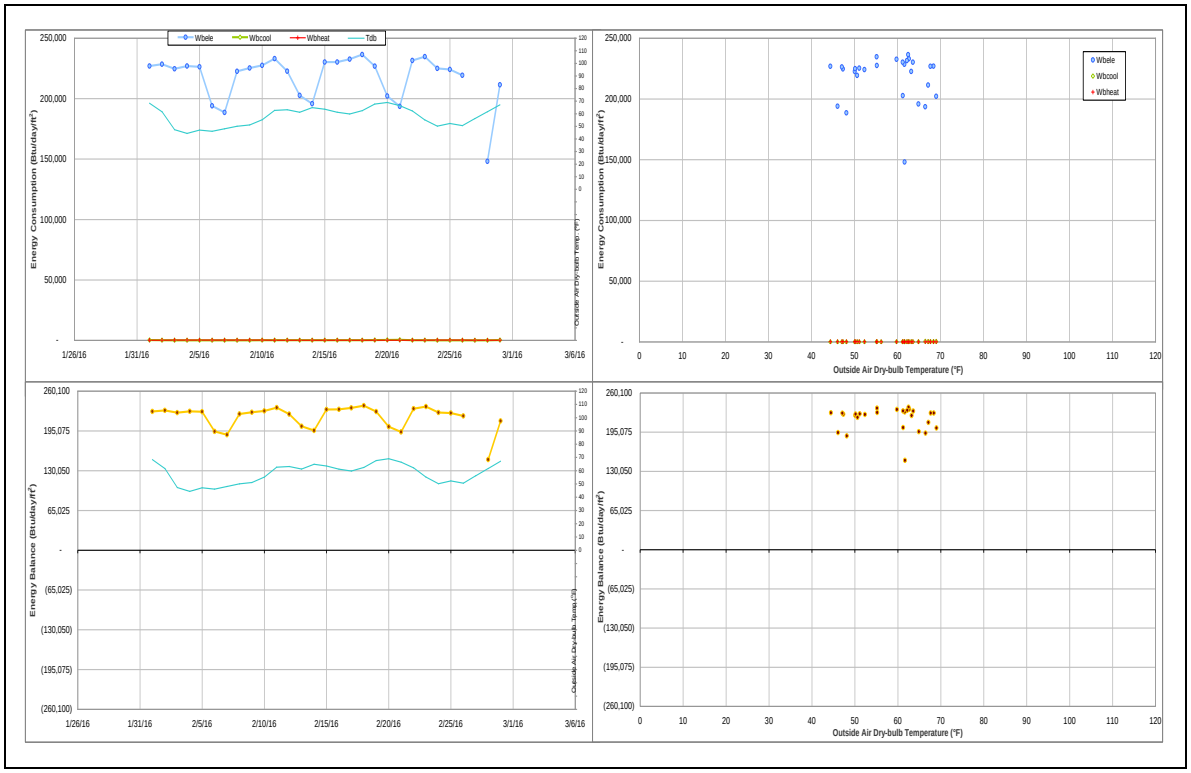
Quantitative descriptions and comments

The ELE MID 005438 was replaced with MID this month. The new MID 009073 covers the entire building plus expansion. The area before expansion is 21,735 ft^2. The official square footage for expansion part is not available now, but we were told it should be close to 10,000 ft^2. However, the daily consumption for current month is around 1000 times greater than previous month. Usually the unit for ELE is kilowatt. For this one, the unit seems to be watt. It is suggested to investigate this meter.

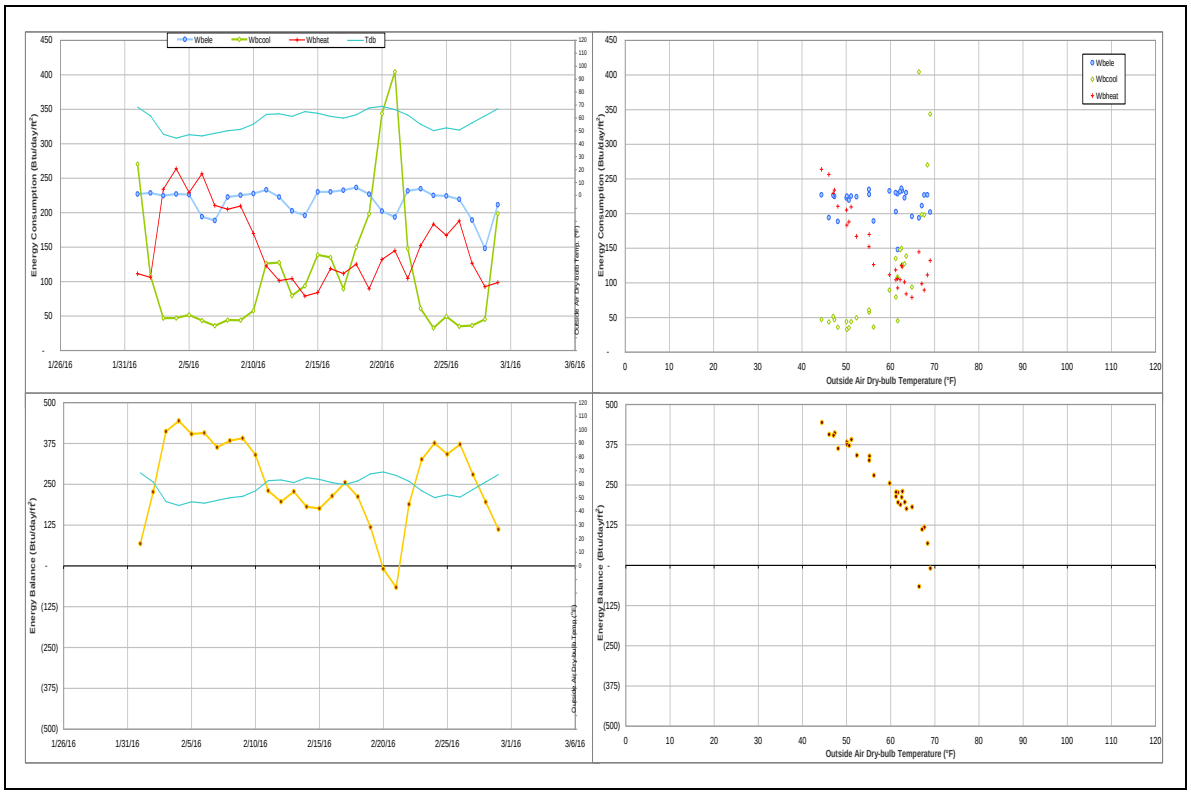
Explanatory Figure: 13 months energy balance plot with original data



Energy balance plot using the original data for the month of analysis. Missing data have been filled in, if any.



Energy balance plot using the estimated data for the month of analysis.



Texas Institute for Genomic Medicine (TAMU Bldg #1900)

Estimated data

Energy Type	Meter ID	Number of Days	Period	Estimation Method
HHW	005546	5	2/1/2016-2/5/2016	Model

Detected issues in the energy balance and/or the consumption data

Data Type	Description of data behaviors	Period
HHW	The consumption seemed to be faulty.	2/1/2016-2/5/2016

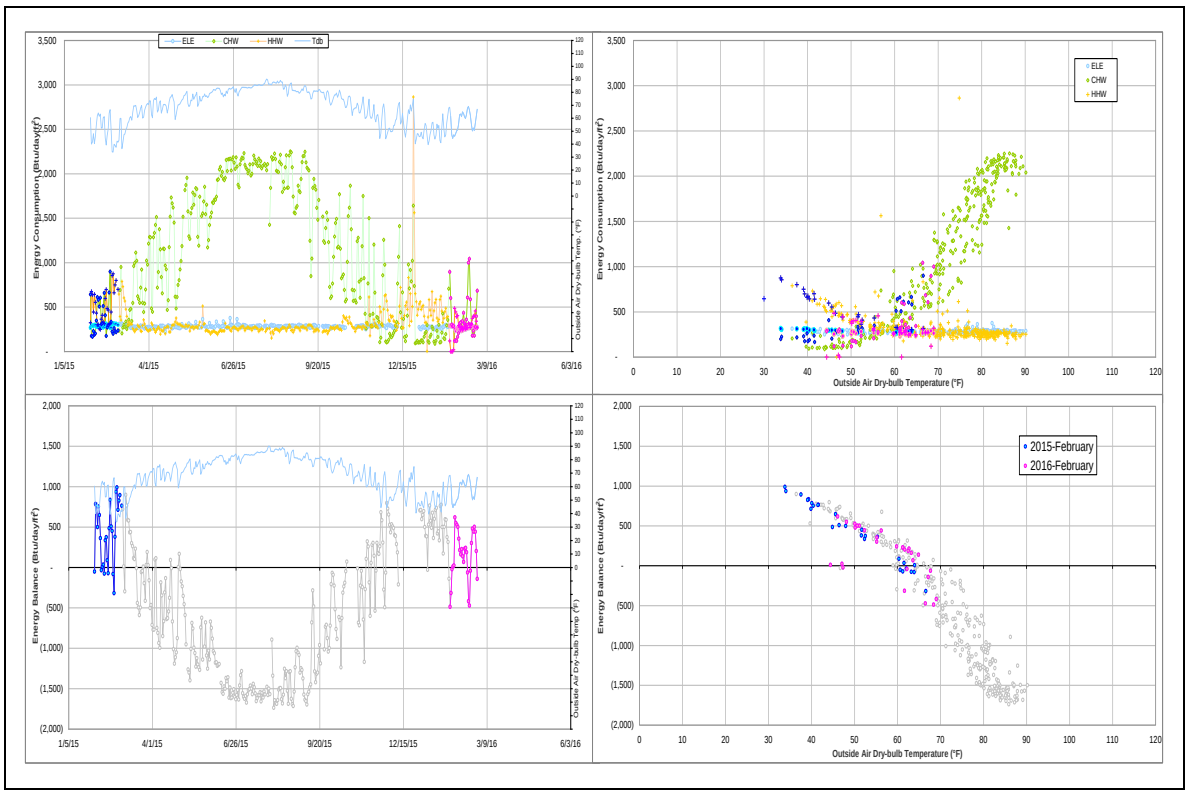
Changes in sensor readings related to the detected issues

Energy Type	Meter ID	Period	Type	Description
HHW	006366	2/1/2016-2/5/2016	Flow rate	Faulty; Decreased and maintained at a constant value

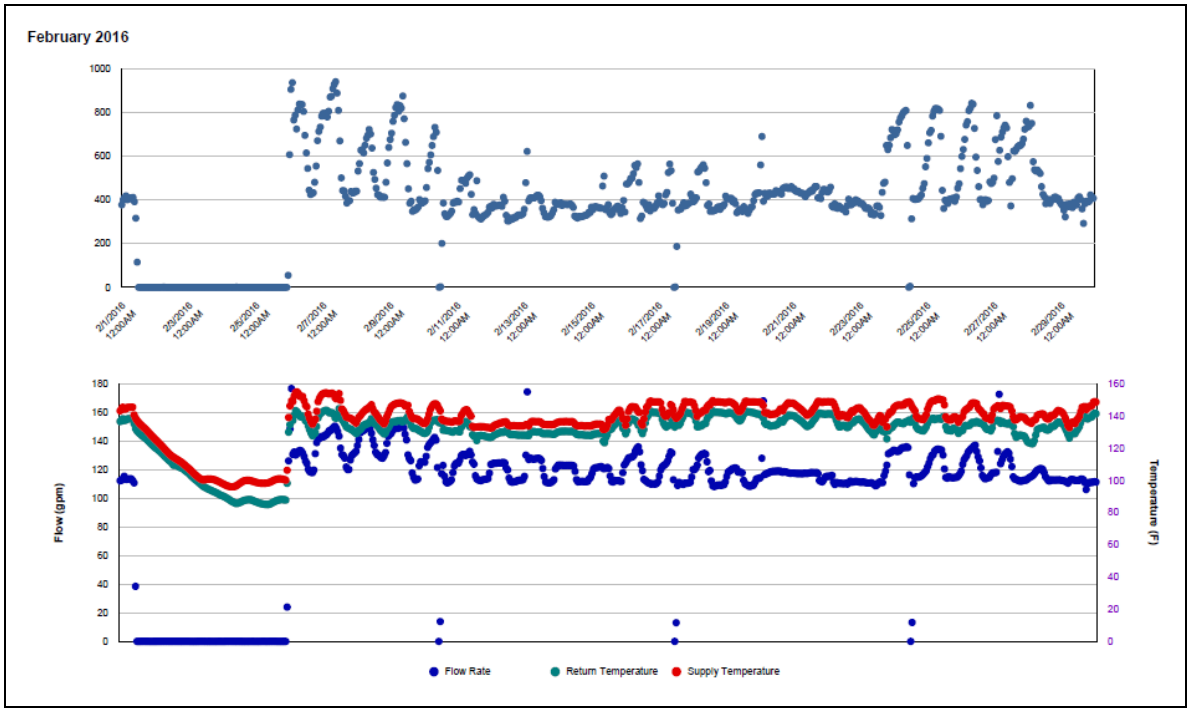
Quantitative descriptions and comments

HHW consumption decreased suddenly and was recorded as zero during 2/1/2016 – 2/5/2016 because the flow rate decreased and maintained at a constant value. The faulty consumption was estimated by a model.

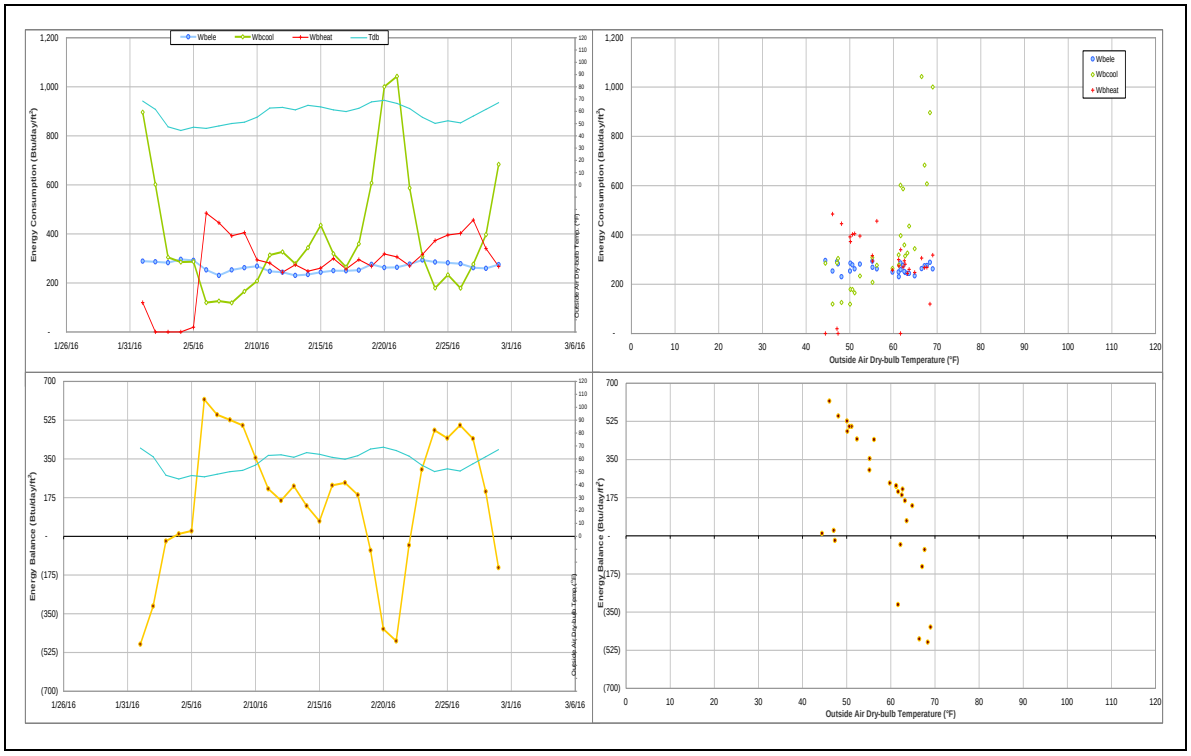
Explanatory Figure: 13 months energy balance plot with original data



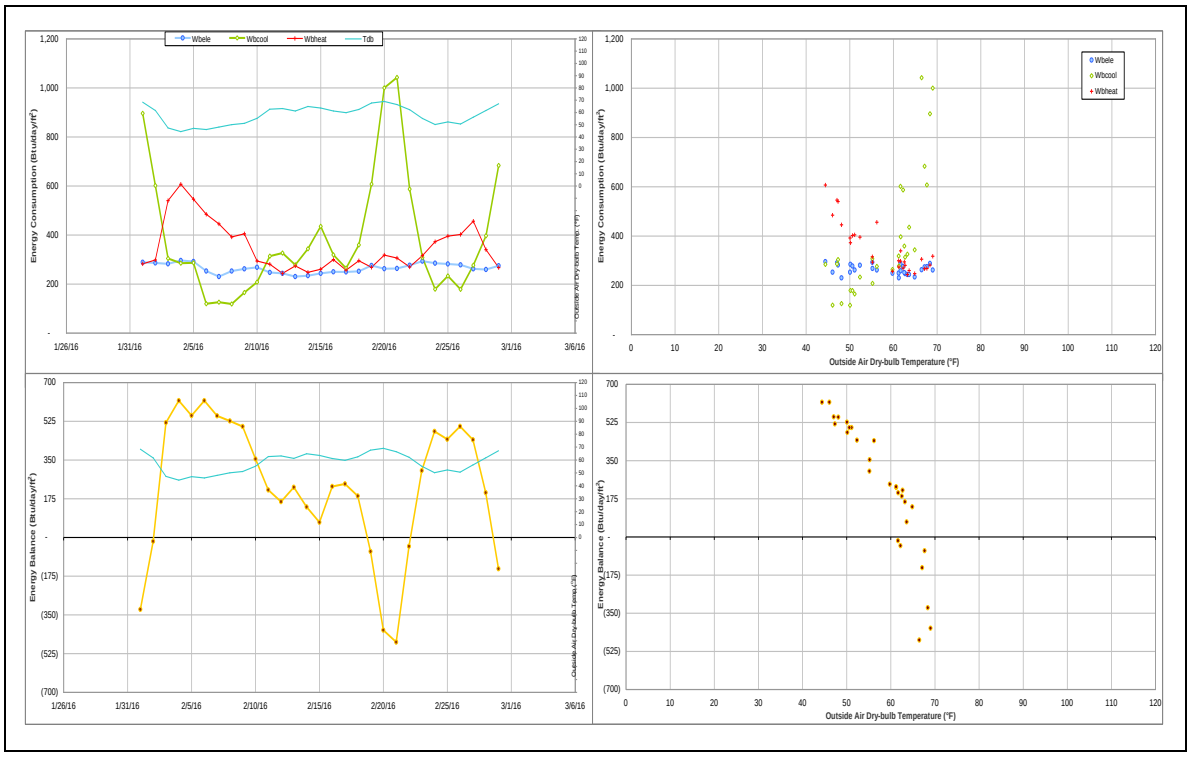
Explanatory Figure: Time series plots of hourly energy consumption, flow rate, and supply and return temperatures from the utilities office (HHW meter February 2016)



Energy balance plot using the original data for the month of analysis. Missing data have been filled in, if any.



Energy balance plot using the estimated data for the month of analysis



Texas A&M Institute for Preclinical Studies A (TAMU Bldg #1904)

Estimated data

Energy Type	Meter ID	Number of Days	Period	Estimation Method
HHW	006366	5	2/1/2016-2/5/2016	Model

Detected issues in the energy balance and/or the consumption data

Data Type	Description of data behaviors	Period
HHW	The consumption seemed to be faulty.	2/1/2016-2/5/2016

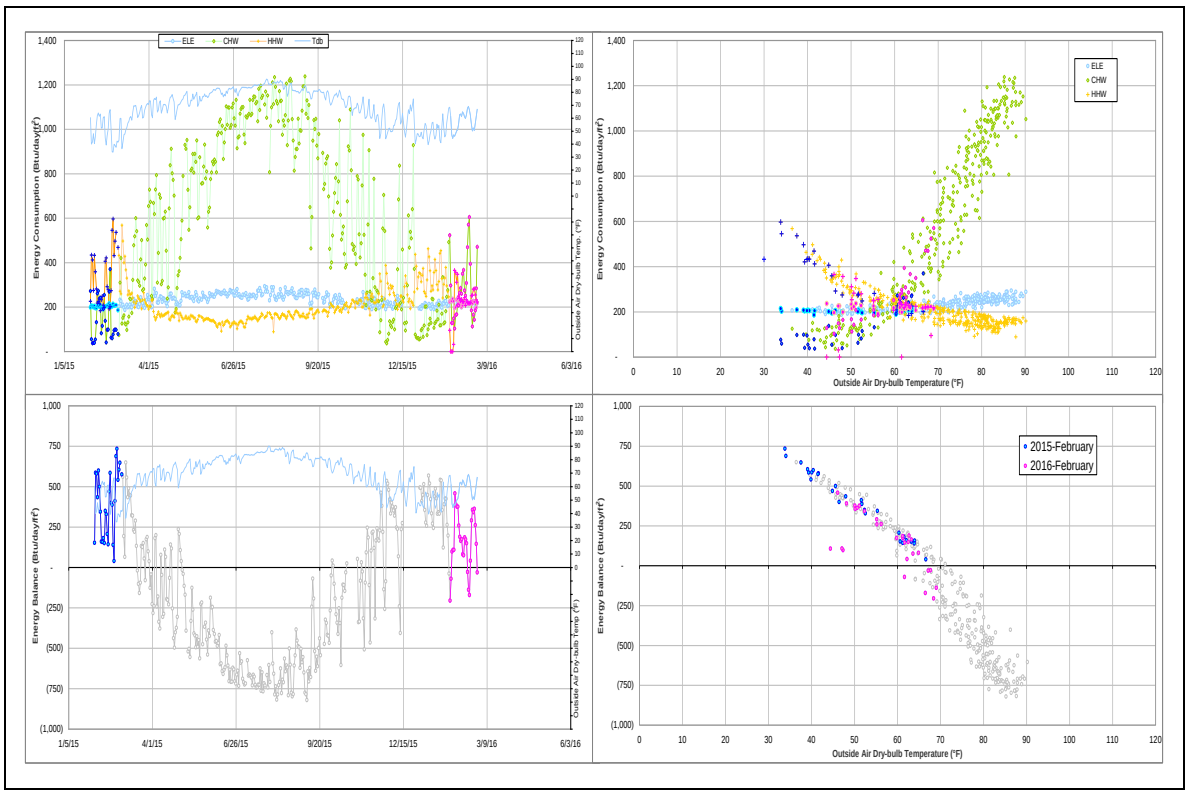
Changes in sensor readings related to the detected issues

Energy Type	Meter ID	Period	Type	Description
HHW	006366	2/1/2016-2/5/2016	Flow rate	Faulty; Decreased and maintained at a constant value

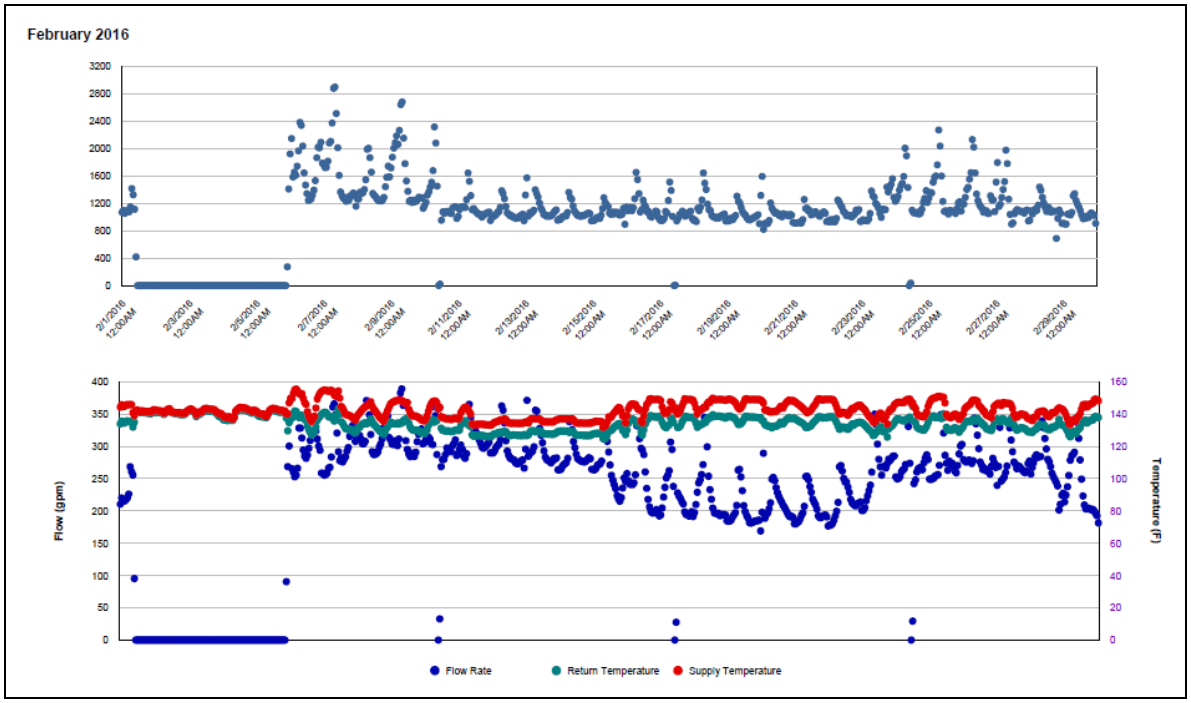
Quantitative descriptions and comments

HHW consumption decreased suddenly and was recorded as zero during 2/1/2016 – 2/5/2016 because the flow rate decreased and maintained at a constant value. The faulty consumption was estimated by a model.

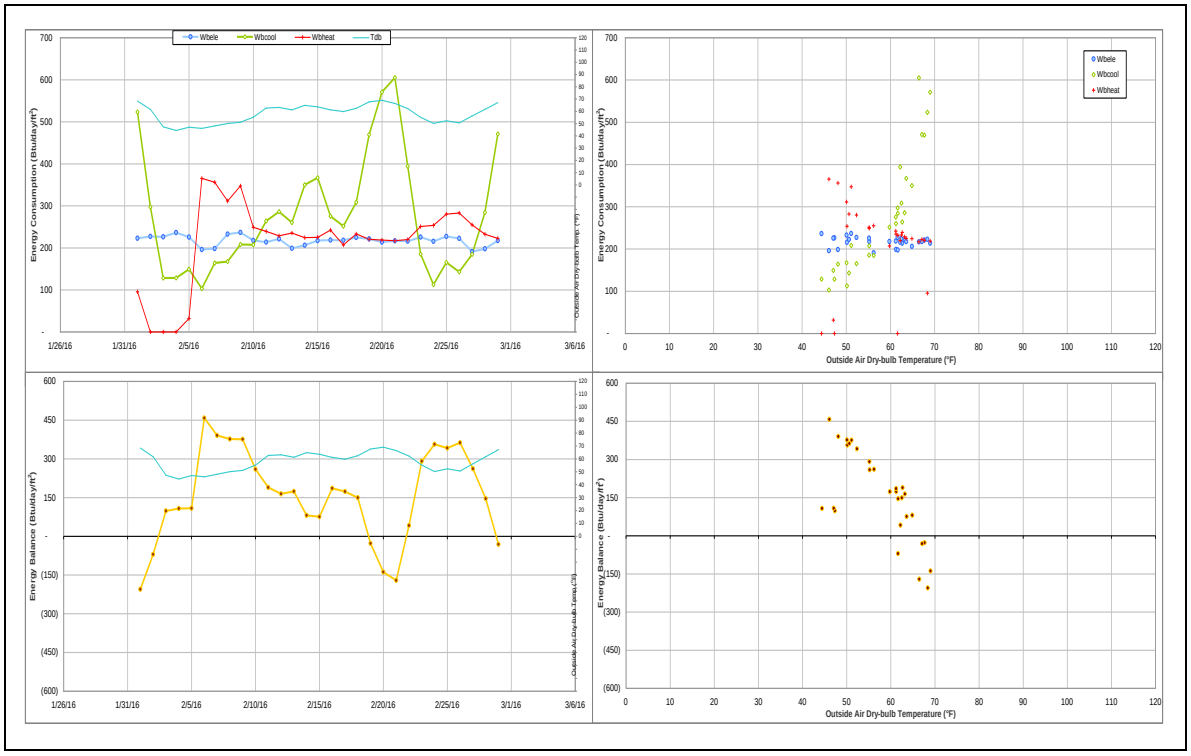
Explanatory Figure: 13 months energy balance plot with original data



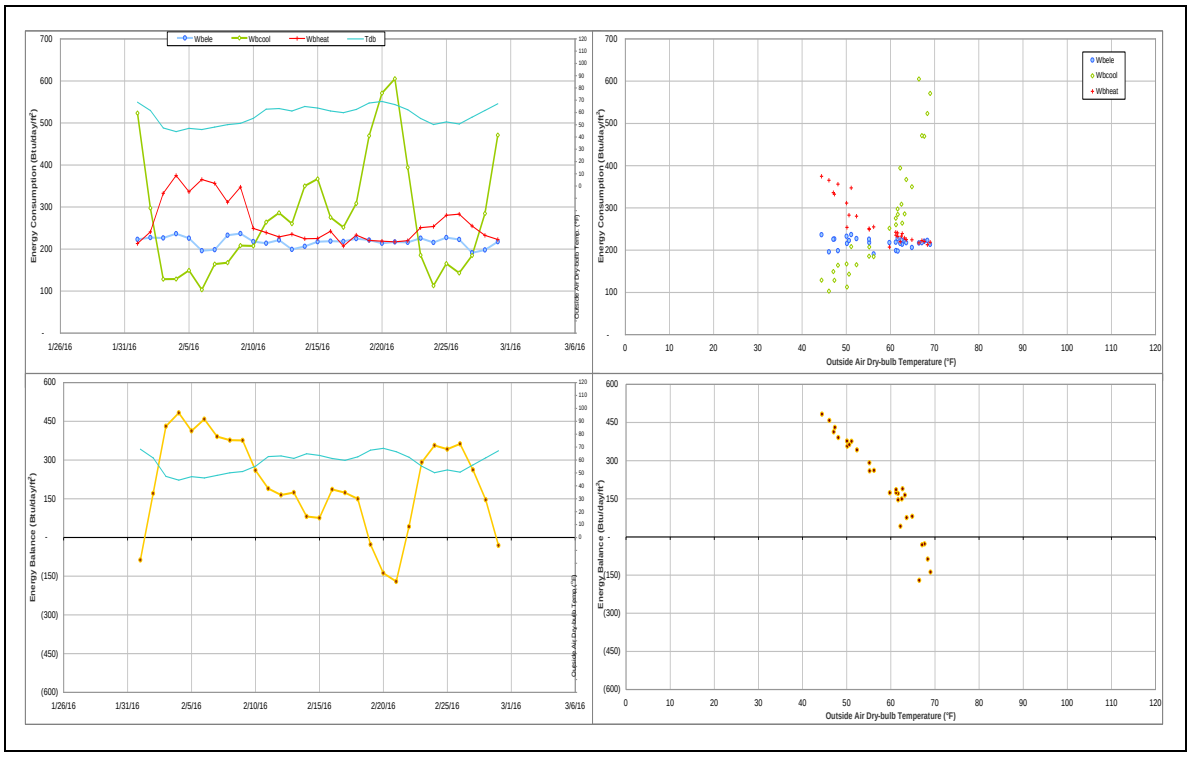
Explanatory Figure: Time series plots of hourly energy consumption, flow rate, and supply and return temperatures from the utilities office (HHW meter February 2016)



Energy balance plot using the original data for the month of analysis. Missing data have been filled in, if any.



Energy balance plot using the estimated data for the month of analysis



II-3 Meters with Significant Issues in Energy Consumption Data

In this section, significant issues in the data behavior are described. On the contrary to the section II–2, alternative consumption is not estimated for some reasons: presence of continuous problems since the beginning of the data acquisition, unbalanced energy uses in the past data, changes in the consumption patterns without evidence of data problems, etc. Table II–3 gives a list of meters included in this section.

Table II-3 Meters with significant issues in the consumption data during February 2016

Building No.	Building Name	MeterID	Type
291	Rudder Residence Hall		
		002132	CHW
		002136	HHW
293	Appelt Residence Hall		
		002062	CHW
		002066	HHW
294	Lechner Residence Hall		
		000004	ELE
		002285	CHW
		002289	HHW
353	Bright Aerospace Building		
		002746	CHW
		002757	HHW
394	Underwood Residence Hall		
		002117	CHW
		002121	HHW
433	Mosher Residence Hall		
		009083	ELE
446	Rudder Theatre Complex		
		002977	ELE
		004297	CHW
		004309	HHW
454	MSC		
		007420	ELE
463	Psychology Building		
		002941	CHW
467	Biological Sciences Building - East		
		001543	ELE
		003851	CHW
		003862	HHW
492	Civil Engineering Building		
		005950	CHW
496	Utilities & Energy Services Central Office		
		007706	ELE
		006929	CHW
		006933	HHW

Building No.	Building Name	Mete	Type
499	Engineering Innovation Center		
		002672	CHW
		002683	HHW
506	Nagle Hall		
		001484	ELE
511	Heep Laboratory Building		
		005821	CHW
		005825	HHW
524	Blocker building		
		002918	HHW
880	TVMC-Small Animal Building		
		005962	HHW
1026	Veterinary Medicine Administration		
		006053	HHW
1146	Biological Control Facility		
		005795	ELE
		005891	HHW
1156	Physical Plant Administration & Shops		
		007679	CHW
1197	Veterinary Research Building		
		006355	ELE
		006359	ELE
1501	Kleberg Center		
		002624	CHW
1559	West Campus Parking Garage		
		004322	CHW
1601	International Ocean Discovery Building		
		008144	CHW
1604	Offshore Technology Research Center		
		006660	ELE
1611	Engineering Research Building		
		008462	ELE
		008463	CHW
		008467	HHW
10226	NCTM Manufacturing Building		
		007652	ELE

Rudder Hall (TAMU Bldg #291)

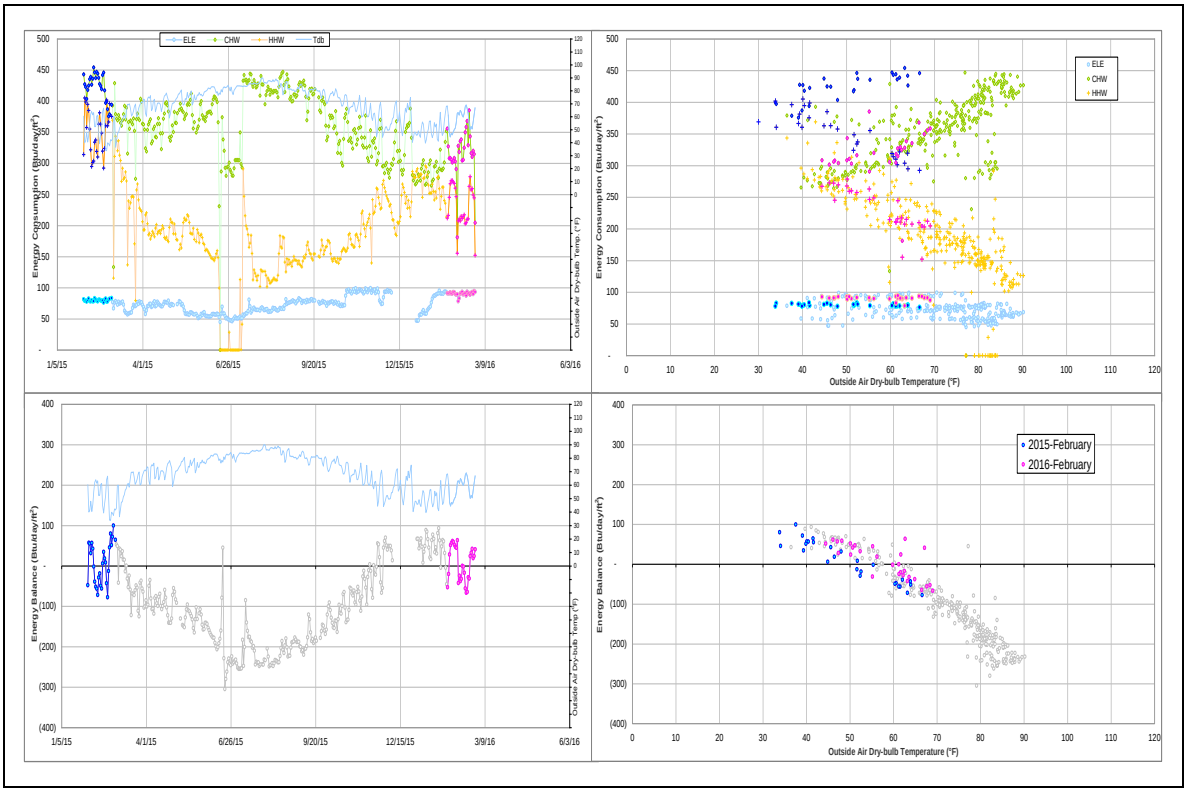
Detected issues in the energy balance and/or the consumption data

Data Type	Description of data behaviors	Period
Energy Balance	The energy balance level is low. The cross-point temperature is around 55°F.	For several years

Comments

This building has a low level of energy balance load with the cross-point temperature below 55°F. The low E_{BL} level suggests imbalance of metered energy use in the building, but we are not able to determine the cause.

Explanatory Figure: 13 months energy balance plot with original data



Appelt Residence Hall (TAMU Bldg #293)

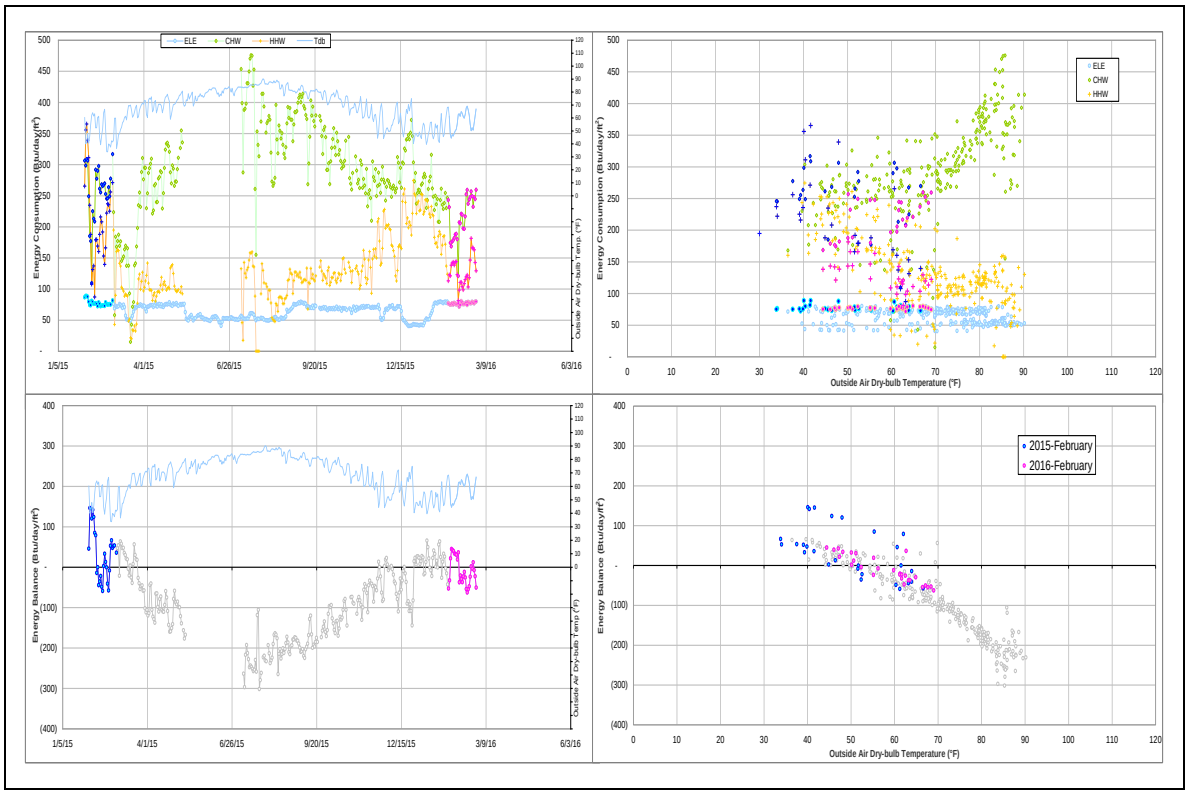
Detected issues in the energy balance and/or the consumption data

Data Type	Description of data behaviors	Period
CHW	The consumption level suddenly decreased.	Since December 2014
HHW	The consumption gradually decreased.	Since January 2015
Energy Balance	The energy balance decreased and the cross-point temperature is around 55°F.	Since January 2015

Comments

Both the CHW and HHW consumption levels have decreased, respectively. As a result, the energy balance load was low with the cross-point temperature around 55°F. The low E_{BL} level suggests imbalance of metered energy use in the building, but we are not able to determine the cause.

Explanatory Figure: 13 months energy balance plot with original data



Lechner Residence Hall (TAMU Bldg #294)

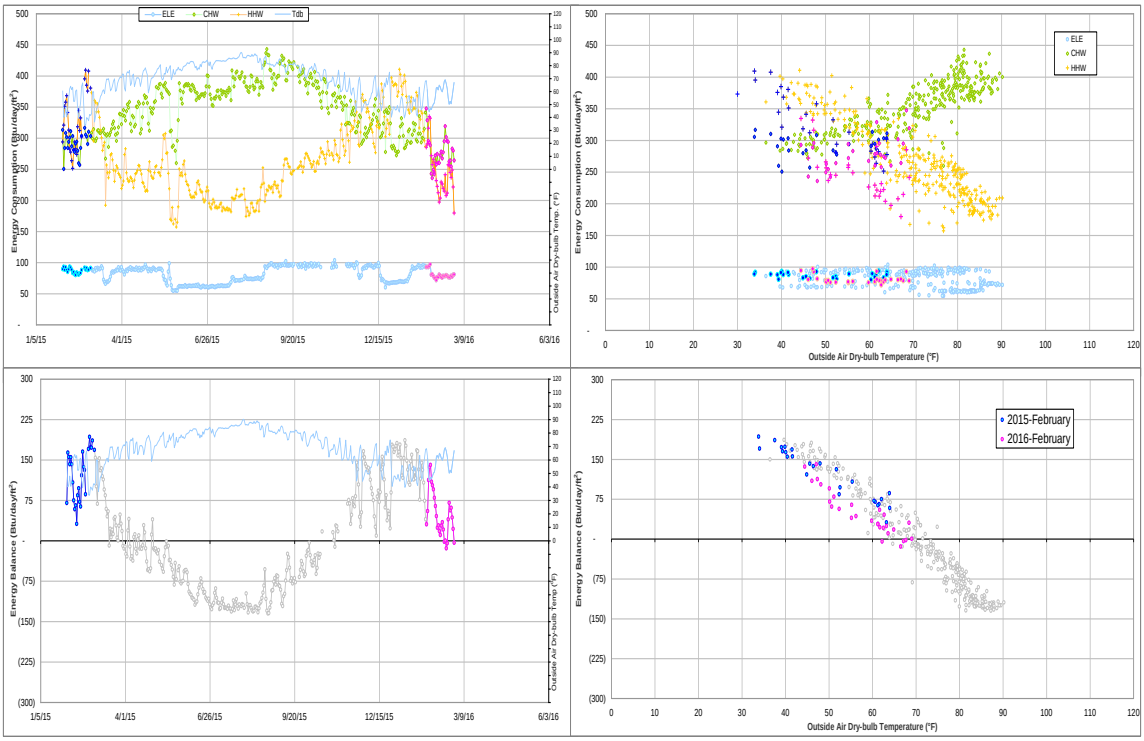
Detected issues in the energy balance and/or the consumption data

Data Type	Description of data behaviors	Period
ELE, CHW, HHW	The consumption level suddenly decreased.	2/7/2016 -ongoing

Comments

All energy consumption levels suddenly decreased at the first week of February 2016. No obvious metering issue were observed. The energy balance is still in reasonable range. The change of building operation might be the reason to cause this decrease.

Explanatory Figure: 13 months energy balance plot with original data



Bright Building (TAMU Bldg #353)

Detected issues in the energy balance and/or the consumption data

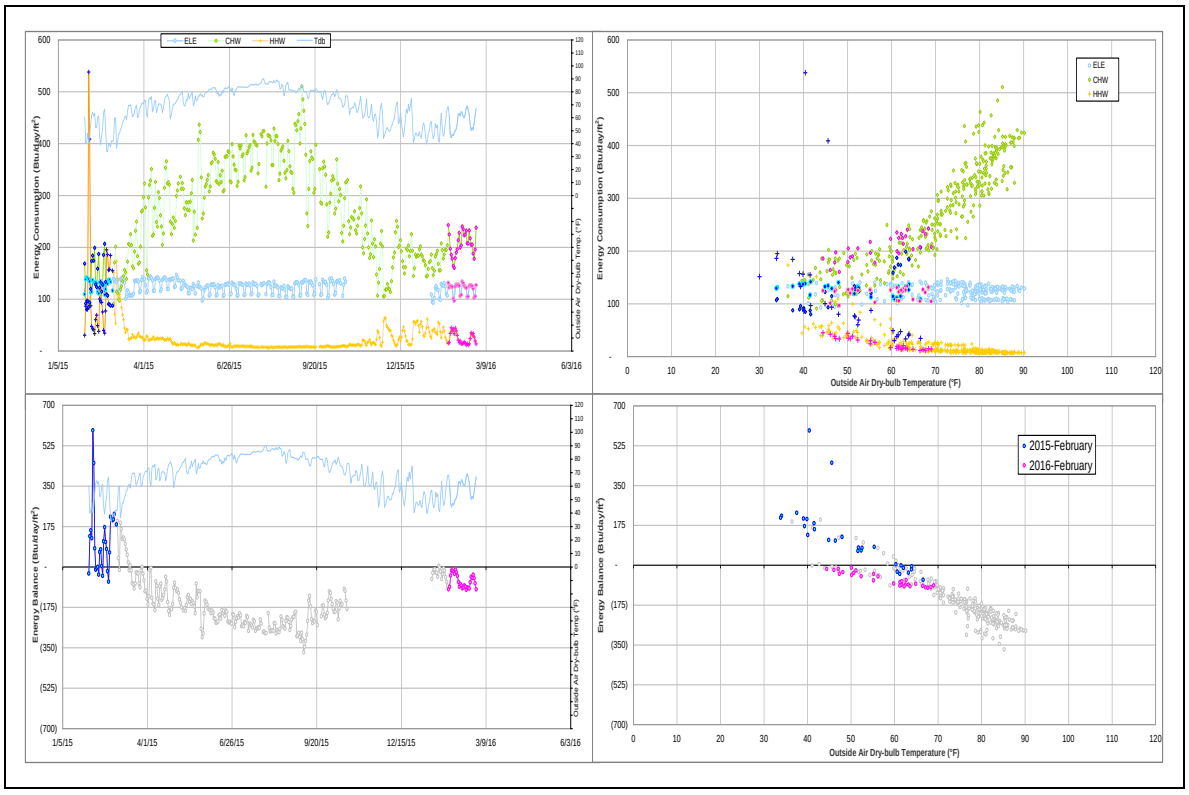
Data Type	Description of data behaviors	Period
Energy Balance	The energy balance level has been low for years. The cross-point temperature was in the range of 40- 70 °F.	For several years
	The energy balance level increased to more reasonable level.	October 2014 – December 2015
	The energy balance level decreased.	January 2016 - ongoing

Comments

The energy balance load (E_{BL}) of this building has been low and the cross-point temperature was around 50°F for years. The electricity use level was in a typical range for office and classroom buildings on campus. Therefore, either CHW or HHW consumption might be causing the unbalanced energy balance in the building.

The CHW consumption gradually decreased since October 2014. It made the energy balance shifted to more reasonable range and the temperature at E_{BL} = 0 was 60°F. The CHW increased gradually since January 2016 and the HHW consumption for current month is lower than the same month of last year. As a result, the energy balance decreased with the cross point temperature lower than 50°F.

Explanatory Figure: 13 months energy balance plot with original data



Underwood Hall (TAMU BLDG # 394)

Detected issues in the energy balance and/or the consumption data

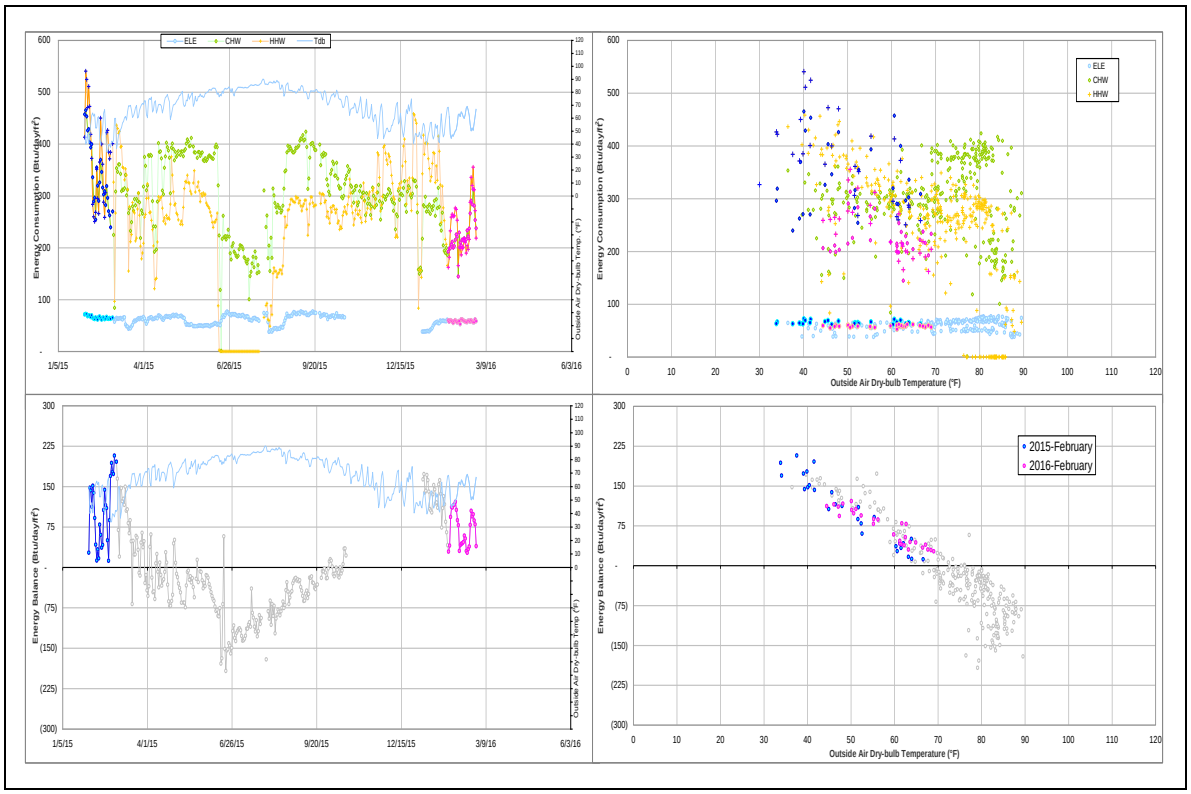
Data Type	Description of data behaviors	Period
CHW and HHW	The consumption varied frequently.	Since June 2015
CHW	The consumption pattern was very scattering and no clear temperature dependence was observed.	For one year

Comments

Both CHW and HHW consumption increased or decreased at the same time since June 2015. As we know, VFDs have been installed for HHW and CHW in December 2014 and June 2015, respectively.

The CHW consumption pattern was very scattering and no clear temperature dependence was observed for last year. It is suggested to investigate this meter.

Explanatory Figure: 13 months energy balance plot with original data



Mosher Residence Hall (TAMU BLDG # 433)

Detected issues in the energy balance and/or the consumption data

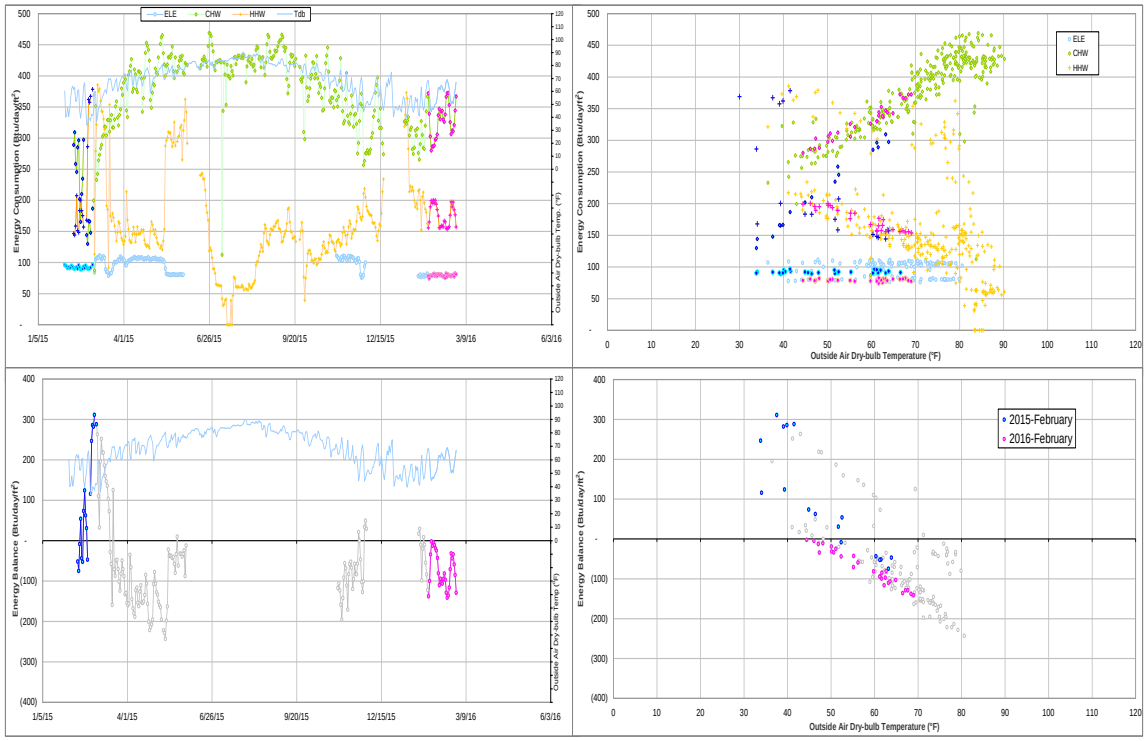
Data Type	Description of data behaviors	Period
ELE 009083	The consumption level suddenly decreased.	Since 1/23/2016

Comments

The cross-point temperature for this building was around 55°F before March 2015. CHW consumption increased 50- 100 Btu/day/ft^2 due to an increase of flow rate after March 2015 and the pattern was stable over one year. As a result, the cross-point temperature decreased from ~ 55°F to ~50°F.

The ELE meter (MID 009083) replaced old meter (MID 000290) since January 2016. After that, the consumption decreased from ~105 Btu/day/ft^2 to ~80 Btu/day/ft^2 (approximately 25%). The CHW and HHW consumption levels didn't changed. The cross-point temperature was further decreased and it lower than 50°F now. It is suggested to investigate this meter.

Explanatory Figure: 13 months energy balance plot with original data



Rudder Theatre Complex (TAMU BLDG # 446)

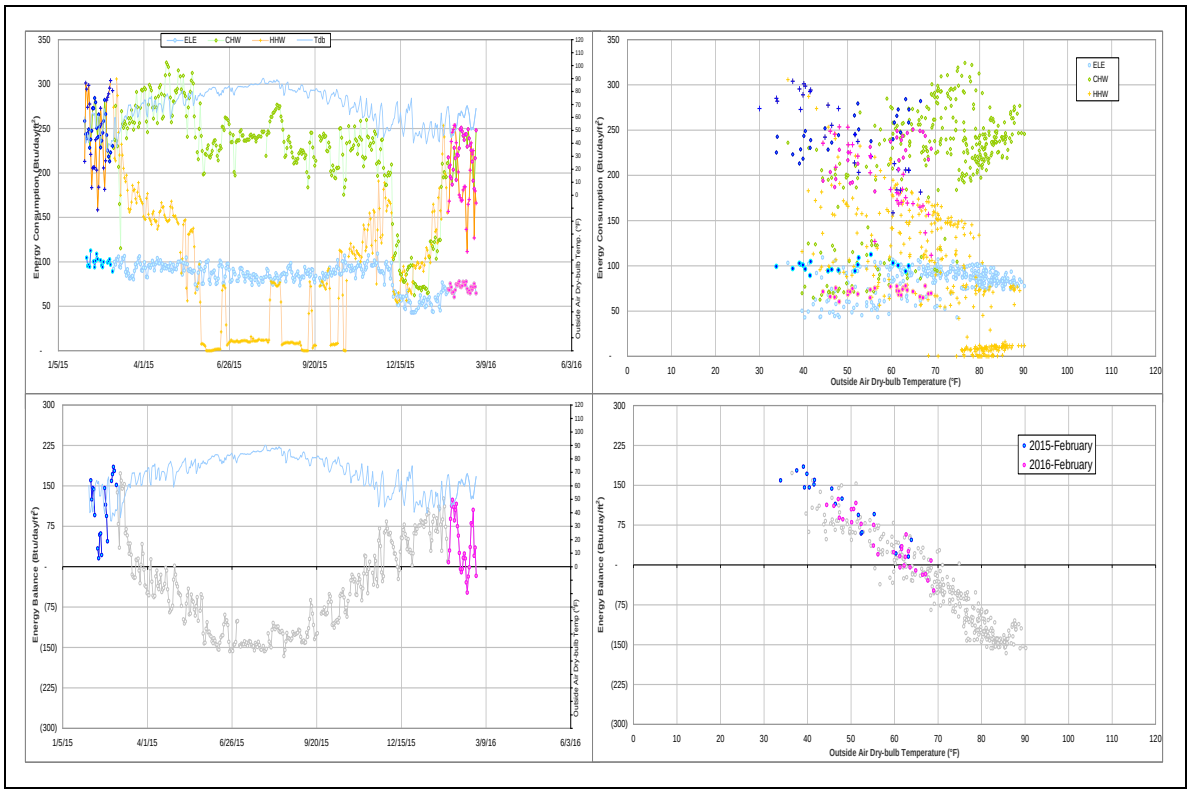
Detected issues in the energy balance and/or the consumption data

Data Type	Description of data behaviors	Period
ELE, CHW and HHW	The consumption level suddenly decreased.	Since 12/7/2015

Comments

The ELE (Meter ID: 002977), CHW (Meter ID: 004297) and HHW (Meter ID: 004309) consumption suddenly decreased by 50, 150 and 100 Btu/day/ft^2, respectively, since 12/7/2015. The decrease of the CHW consumption was caused by the decrease of the return temperature, and the drop of the HHW use was led by the smaller delta T. In the middle of January 2016, the CHW and HHW consumption gradually increased. However, the energy balance has no significant change and the cross-point temperature is still in the reasonable range (around 70°F). It is recommended to check the system operation of this building.

Explanatory Figure: 13 months energy balance plot with original data



MSC (TAMU Bldg # 454)

Detected issues in the energy balance and/or the consumption data

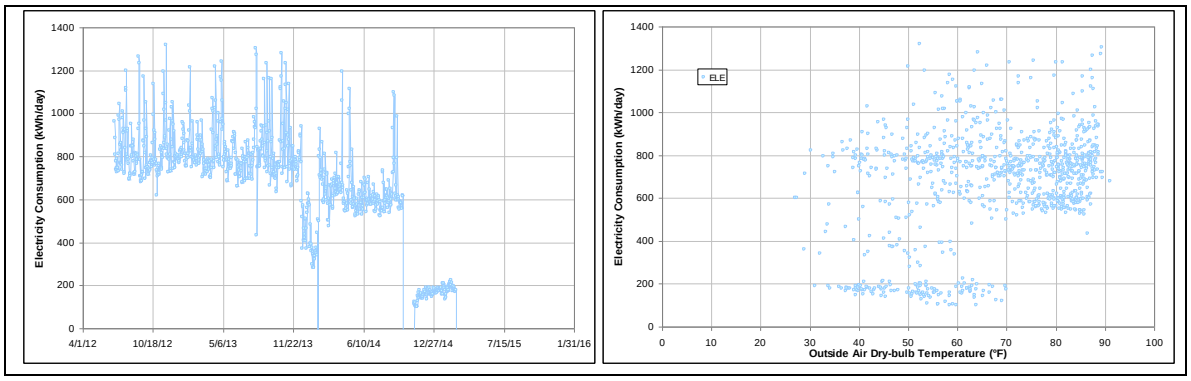
Data Type	Meter ID	Description of data behaviors	Period
ELE	007420	The consumption data is missing.	3/1/2015 – ongoing

Comments

There are three ELE meters for this building. The ELE consumption for Meter #007420 counts for less than 5% of total ELE use. The ELE (Meter ID: 007420) consumption data is missing since 3/1/2015. The energy pattern for this meter was always scattered for years, and the consumption decreased to around one fourth during 11/1/2014 through 2/28/2015. The missing data was estimated by a temporary model based on the data during 2/1/2014 – 9/30/2014.

For the month of September 2015, a counter reading of this ELE meter was given, but this number was very high (around 10 times of the consumption level before March 2015).

Explanatory Figure: Time series plot and energy pattern with respect to outside temperature for ELE (Meter ID: 007420) from 7/1/2012 to 2/28/2015.



Psychology Building (TAMU Bldg #463)

Detected issues in the energy balance and/or the consumption data

Data Type	Description of data behaviors	Period
Energy Balance	The pattern scatters and the level is low.	For several years after ESCO implementation in 2011
CHW	The consumption pattern versus ambient temperature scatters.	

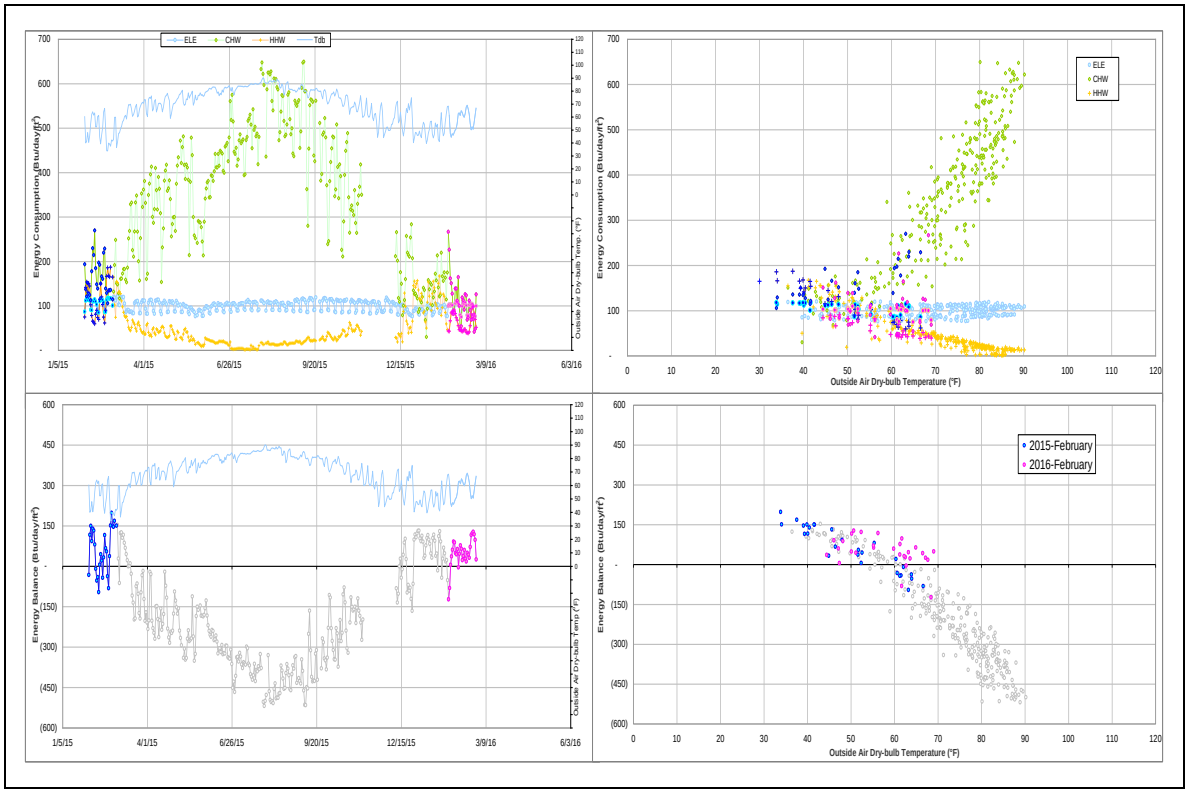
Changes in sensor readings related to the detected issues

Energy Type	Meter ID	Period	Type	Description
CHW	002941	11/29/2012–ongoing	Delta T	Large for office building

Quantitative descriptions and comments

The CHW consumption pattern versus ambient temperature started to scatter after ESCO implementation. The CHW consumption level is high, because the CHW temperature differential is around 20°F that is high for an office building with conventional HVAC systems. The cross-point temperature of the energy balance is 50 - 60°F. The building had energy efficiency improvements by ESCO during the period of 5/9/2011–8/19/2011.

Explanatory Figure: 13 months energy balance plot with original data



Biological Sciences Building – East (TAMU Bldg # 467)

Detected issues in the energy balance and/or the consumption data

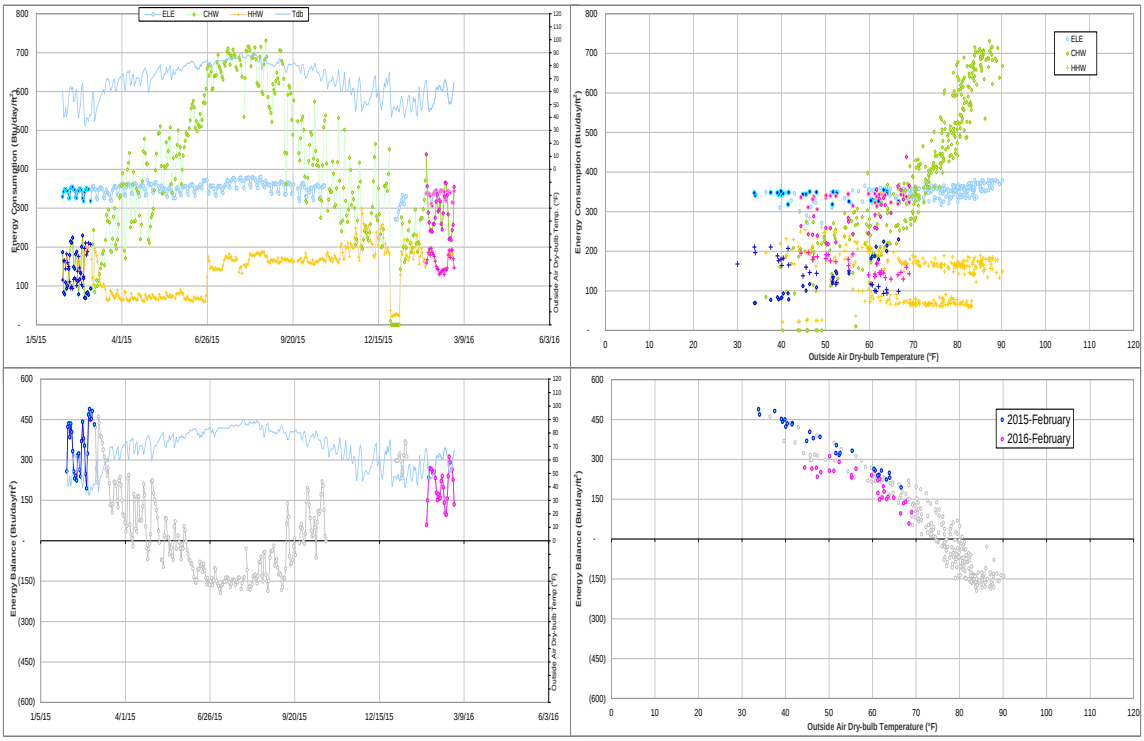
Data Type	Description of data behaviors	Period
ELE	The consumption level may be high.	1/2/2013–ongoing
HHW	The consumption level suddenly increased.	6/26/2015–ongoing
CHW	The consumption was higher than the same period of last year.	Since November 2015

Comments

The ELE consumption suddenly increased after 1/2/2013 by approximately 100 Btu/day/ft^2. There was a power outage in the building right before this increase. The CHW and HHW consumption levels did not change. The increased ELE usage level was in the range 290 - 390 Btu/day/ft^2 for the last year, which was higher than those for other buildings with similar functionality. For example, the ELE use range in the adjacent Biological Sciences Building – West (Bldg 449) was 190 –250 Btu/day/ft^2 during the same time period. These buildings have similar CHW and HHW consumption levels. The energy balance load after the ELE increase was higher than expected range by approximately 120 Btu/day/ft^2. The increase of the ELE use in Biological Sciences Building – East after 1/2/2013 was questionable and this meter needs attention.

The HHW consumption suddenly increased about 100 Btu/day/ft^2 since 6/26/2015 due to an increase in the delta-T. The CHW consumption since the month of November 2015 was about 100 Btu/day/ft^2 higher than the same period of last year.

Explanatory Figure: 13 months energy balance plot with original data



Civil Engineering Building (TAMU Bldg # 492)

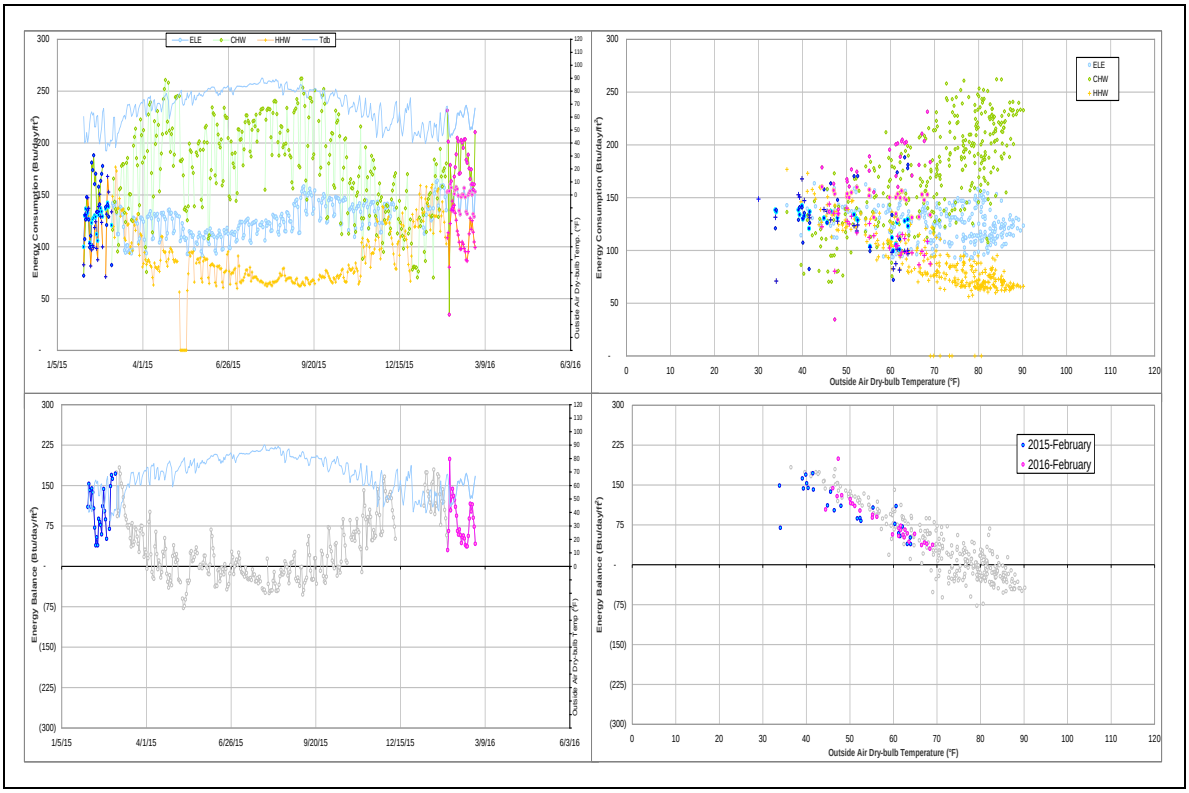
Detected issues in the energy balance and/or the consumption data

Data Type	Description of data behaviors	Period
Energy Balance	The cross-point temperature is high.	May 2015 – January 2016
CHW	The consumption level decreased.	May 2015 – January 2016

Comments

May 2015 through January 2016, the CHW consumption decreased and the energy balance tended to be high with a cross-point temperature around 80°F. February 2016 is starting to show an increase in CHW consumption and a drop in the cross-point temperature. This change will continue to be monitored.

Explanatory Figure: 13 months energy balance plot with original data



Utilities & Energy Services Central Office (TAMU Bldg #496)

Detected issues in the energy balance and/or the consumption data

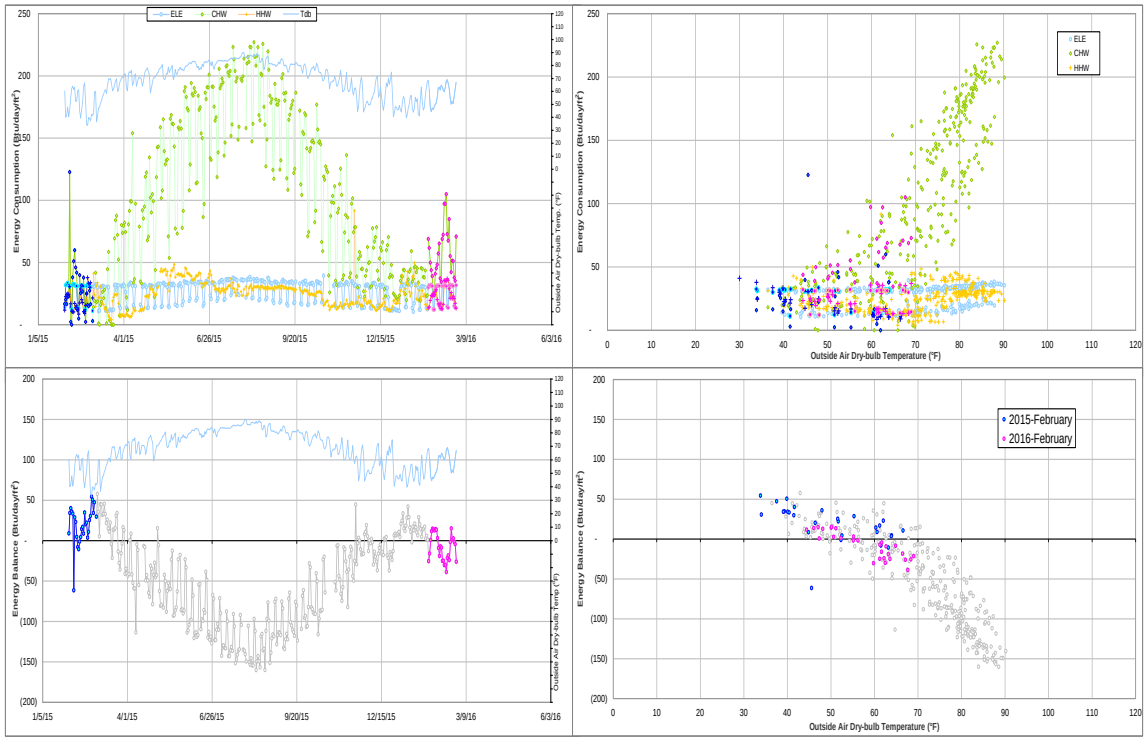
Data Type	Description of data behaviors	Period
ELE, CHW, and HHW	The energy use per unit floor area was low compared to other buildings.	Since the data became available on 7/1/2012

Quantitative descriptions and comments

The peak electricity use density was around 0.65 W/ft^2 which is small compared to that of other office buildings on campus. The delta T for HHW seemed to be small for years. The CHW and HHW consumption per the unit floor area also seemed to be low. It is possible that the GSF we have (46,110 ft^2) includes substantial unoccupied space.

The energy balance was scattered due to the consumption level changes for CHW and HHW, the cross-point temperature of the energy balance was ranged around 50 to 70°F.

Explanatory Figure: 13 months energy balance plot with original data.



Engineering Innovation Center (TAMU Bldg # 499)

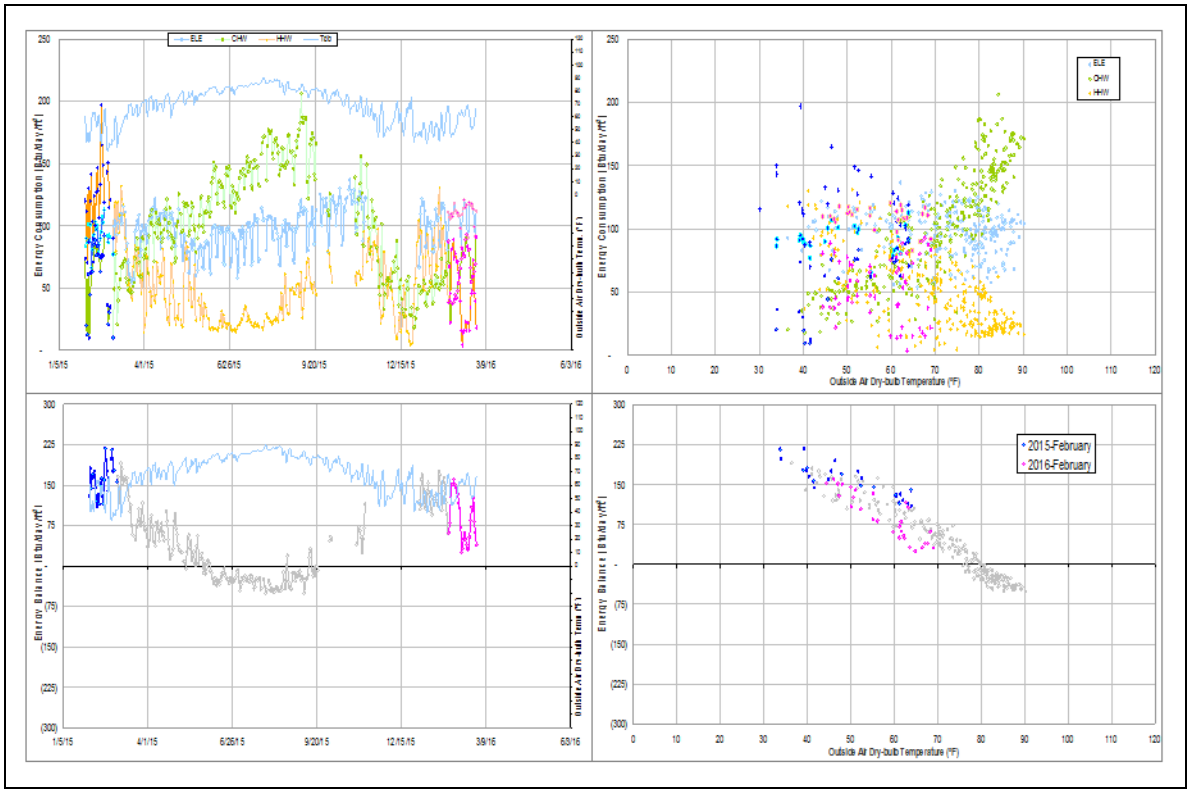
Detected issues in the energy balance and/or the consumption data

Data Type	Description of data behaviors	Period
Energy Balance	The cross-point temperature is high.	For years
CHW	The consumption level is low compared to the ELE and HHW consumption.	For years
HHW	The consumption was lower than the same period of last year.	Since December 2015

Comments

The cross-point temperature of the energy balance is around 80°F. The CHW consumption is relatively low and its delta T is always small. The HHW consumption since December 2015 is much lower than the same month of last year (about 100 Btu/day/ft^2 lower).

Explanatory Figure: 13 months energy balance plot with original data



Nagle Hall (TAMU Bldg #506)

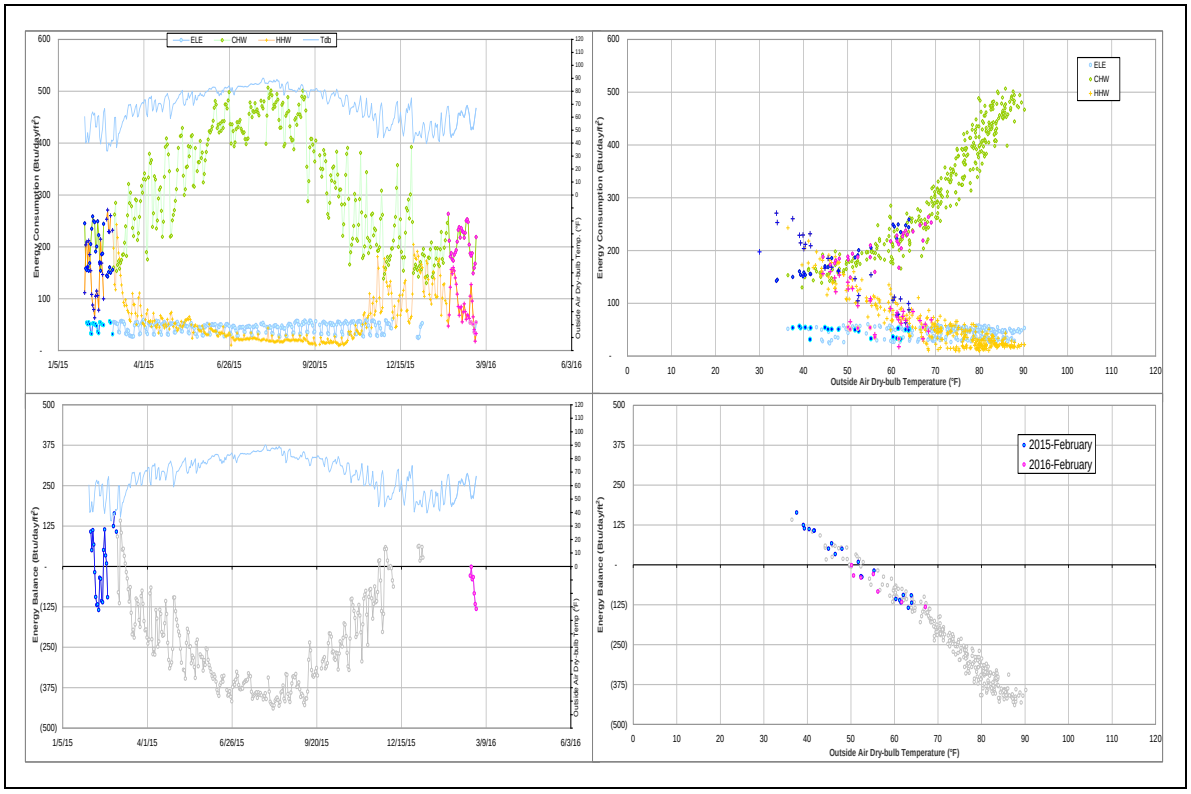
Detected issues in the energy balance and/or the consumption data

Data Type	Description of data behaviors	Period
Energy Balance	The level was low and the cross-point temperature was around 50°F.	The cross-point temperature has always been low.
ELE	The consumption per unit floor area was smaller than those for other office buildings.	The level was always low and gradually decreased over the past 4 years.

Comments

The ELE consumption was about 100 Btu/day/ft^2 lower than the levels in typical office buildings on campus, and this might be a metering error or this meter might not cover the whole building.

Explanatory Figure: 13 months energy balance plot with original data



Heep Laboratory Building (TAMU Bldg #511)

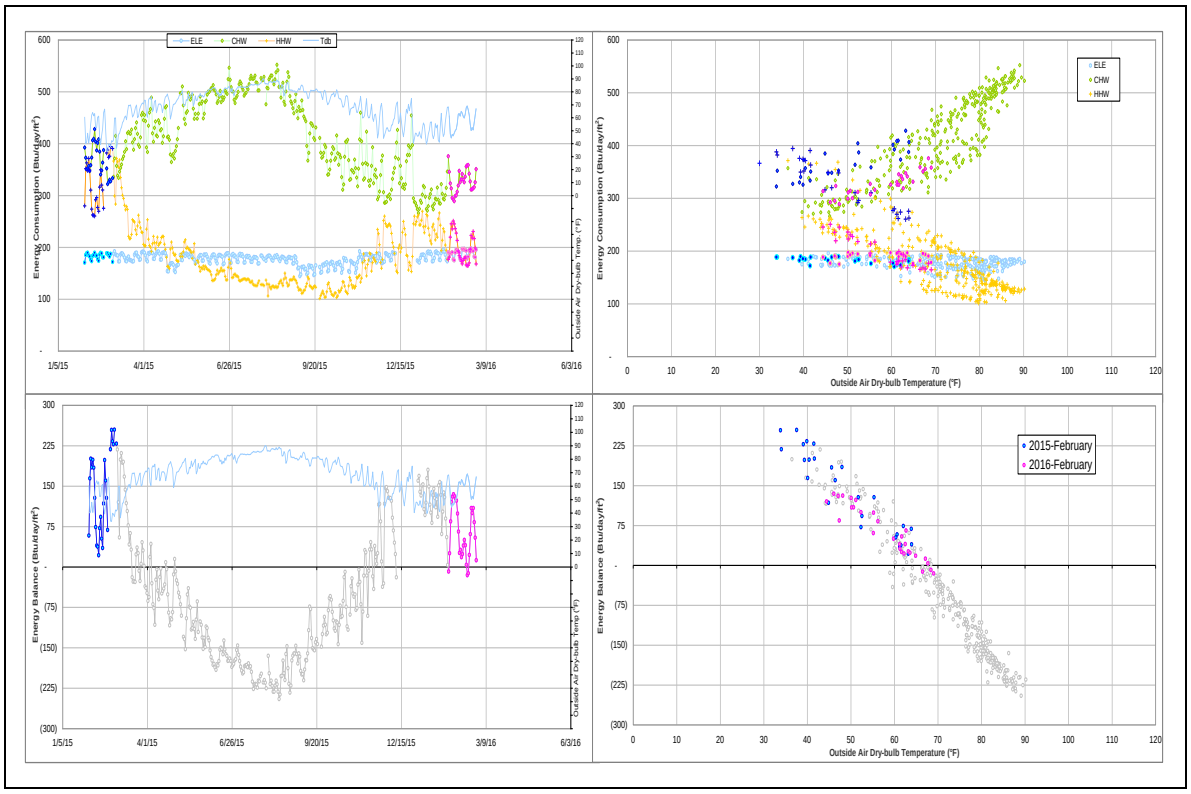
Detected issues in the energy balance and/or the consumption data

Data Type	Description of data behaviors	Period
CHW and HHW	Energy consumption levels decreased.	Since September 2015

Comments

All energy consumption levels decreased around 20 - 80 Btu/day/ft^2 since September 2015. The ELE consumption increased gradually and reached previous level in November 2015. There is no conclusive metering issue and energy balance maintained same pattern. This building had energy efficiency improvements by ESCO this year. It could be the reason to cause these changes.

Explanatory Figure: 13 months energy balance plot with original data



Blocker Building (TAMU Bldg #524)

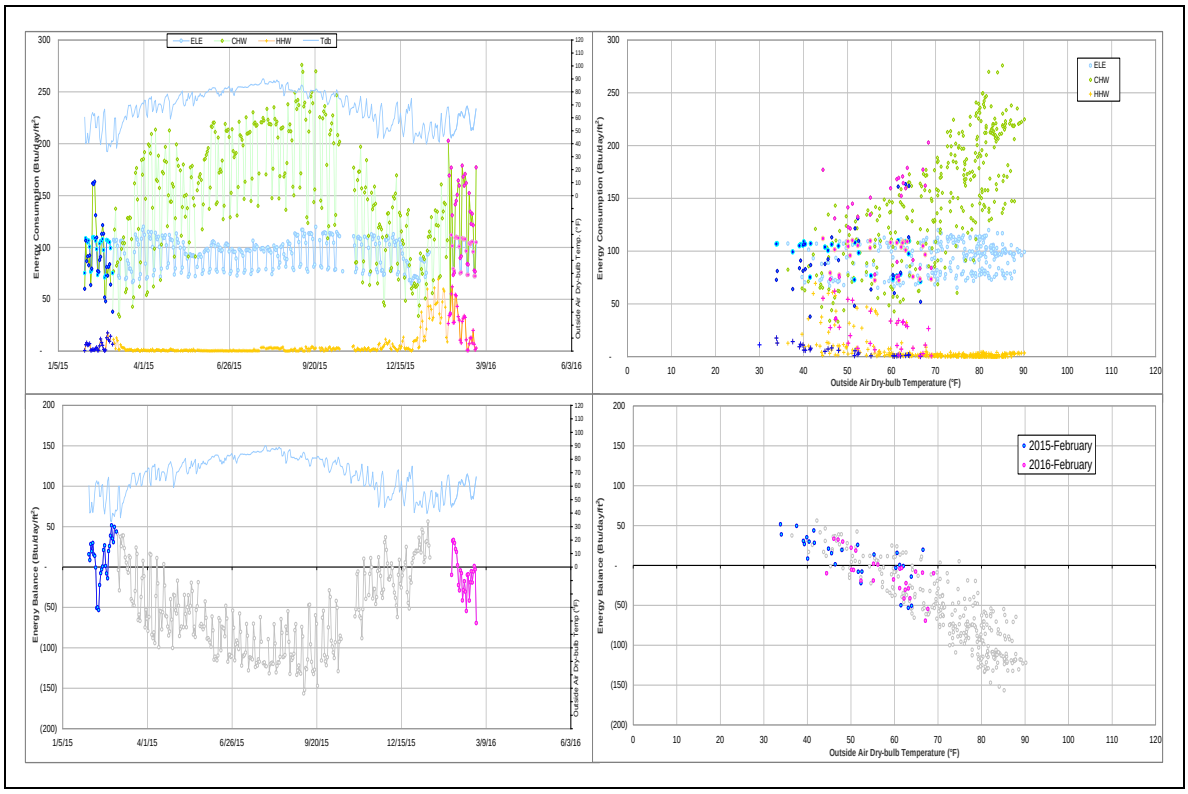
Detected issues in the energy balance and/or the consumption data

Data Type	Description of data behaviors	Period
HHW	The consumption level might be low.	Past several years

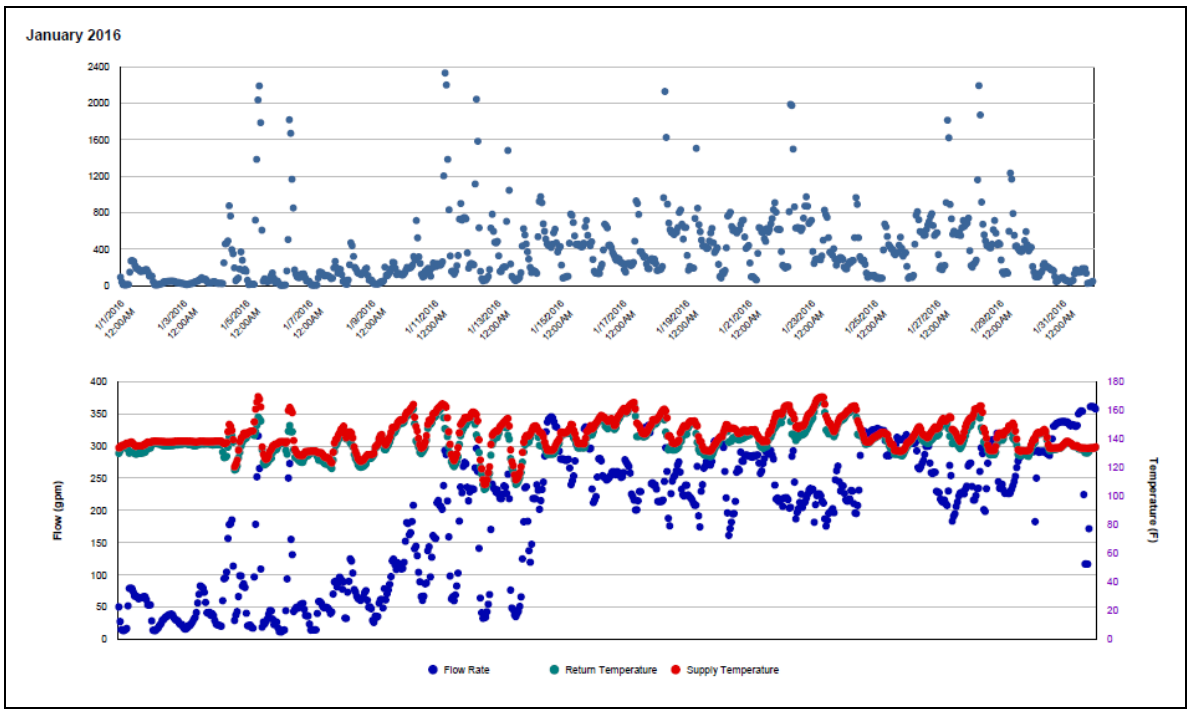
Quantitative descriptions and comments

The delta T for HHW seemed to be small and the consumption level might be low for years. It is suggested to investigate this meter.

Explanatory Figure: 13 months energy balance plot with original data



Explanatory Figure: Time series plots of hourly energy consumption, flow rate, and supply and return temperatures from the utilities office. (HHW meter during January 2016)



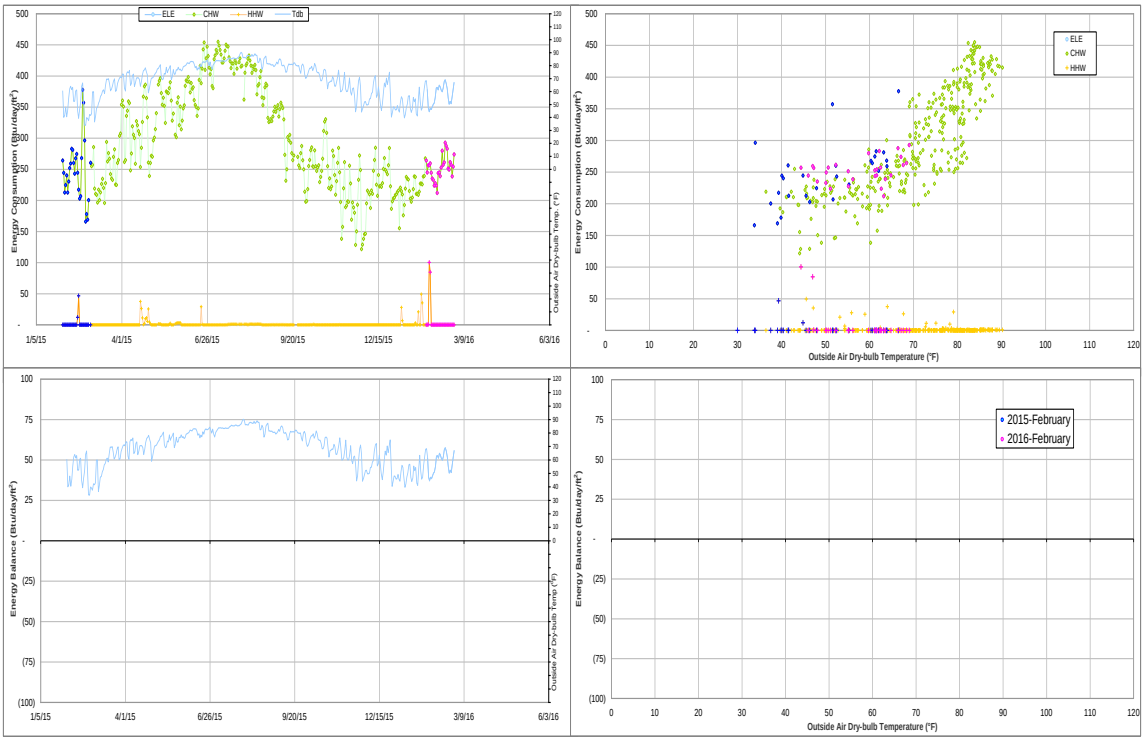
TVMC-Small Animal Building (TAMU Bldg# 880)

Data Type	Description of data behaviors	Period
HHW	The daily consumption is zero or nearly zero for the majority of the days during the year.	Since the data became available in October 2008

Comments

The daily HHW consumption pattern is zero or nearly zero for the majority of the days for years. The HHW consumption level are unstable since the data became available, and we do not have valid consumption model for this meter.

Explanatory Figure: 13 months energy balance plot with original data



Veterinary Medicine Administration (TAMU Bldg# 1026)

Detected issues in the energy balance and/or the consumption data

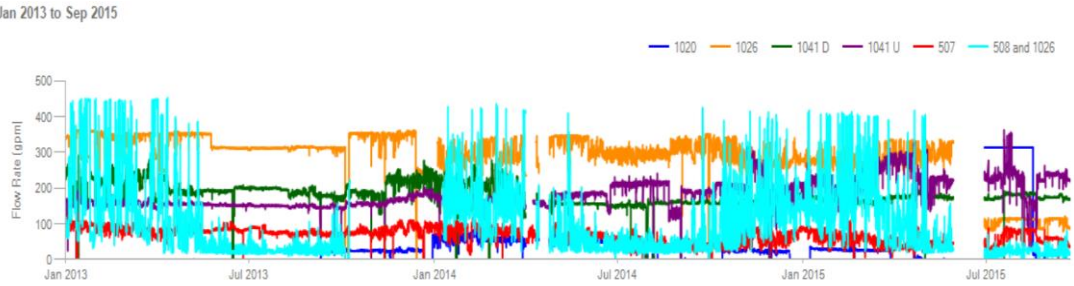
Data Type	Description of data behaviors	Period
HHW 006053	The sub-meter's (006053) flow rate for one building sometimes is higher than the total meter (004170) for two buildings.	For several years

Comments

The HHW meter ID 006053 is a sub-meter of the meter ID 004170 which meters the total energy use in the buildings #508 and 1026. It is questionable that the flow rate of the sub-meter exceeds the flow rate of the main meter. We would like to know the HHW distribution route for the two buildings and the locations of the sensors.

ESL has not received the consumption data for the HHW meter since 10/21/2012.

Explanatory Figure: Time series of hourly HHW supply temperatures (top) and flow rates (bottom) for Veterinary Medicine Administration (Bldg #1026) and neighboring buildings during 1/1/2013–9/30/2015



Biological Control Facility (TAMU Bldg# 1146)

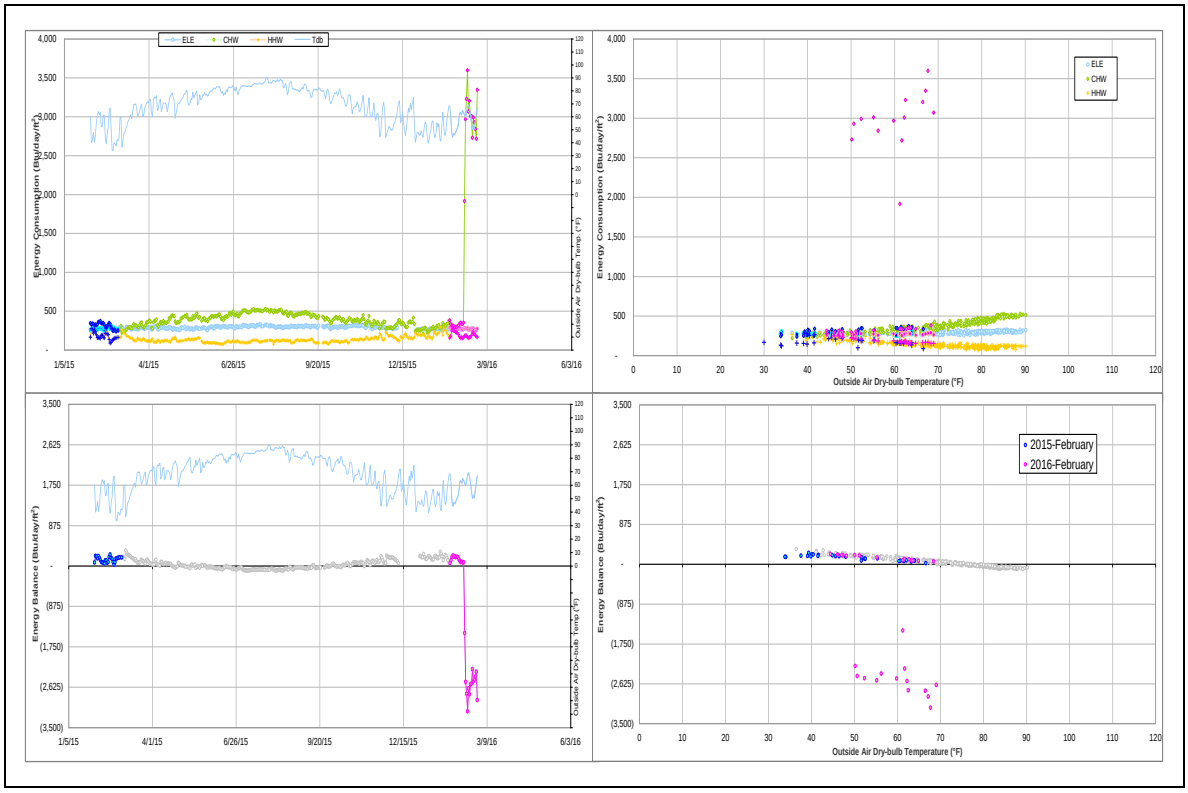
Detected issues in the energy balance and/or the consumption data

Data Type	Description of data behaviors	Period
Energy Balance	The cross-point temperature is slightly high, ~75°F.	12/28/2014-ongoing
ELE	The consumption increased gradually.	For last year

Comments

The electricity consumption increased gradually. The consumption level in current month is 20% higher than same month of last year. As a result, the energy balance pattern changed and the cross-point temperature became slightly high, approximately 75°F.

Explanatory Figure: 13 months energy balance plot with original data



Physical Plant Administration & Shops (TAMU Bldg# 1156)

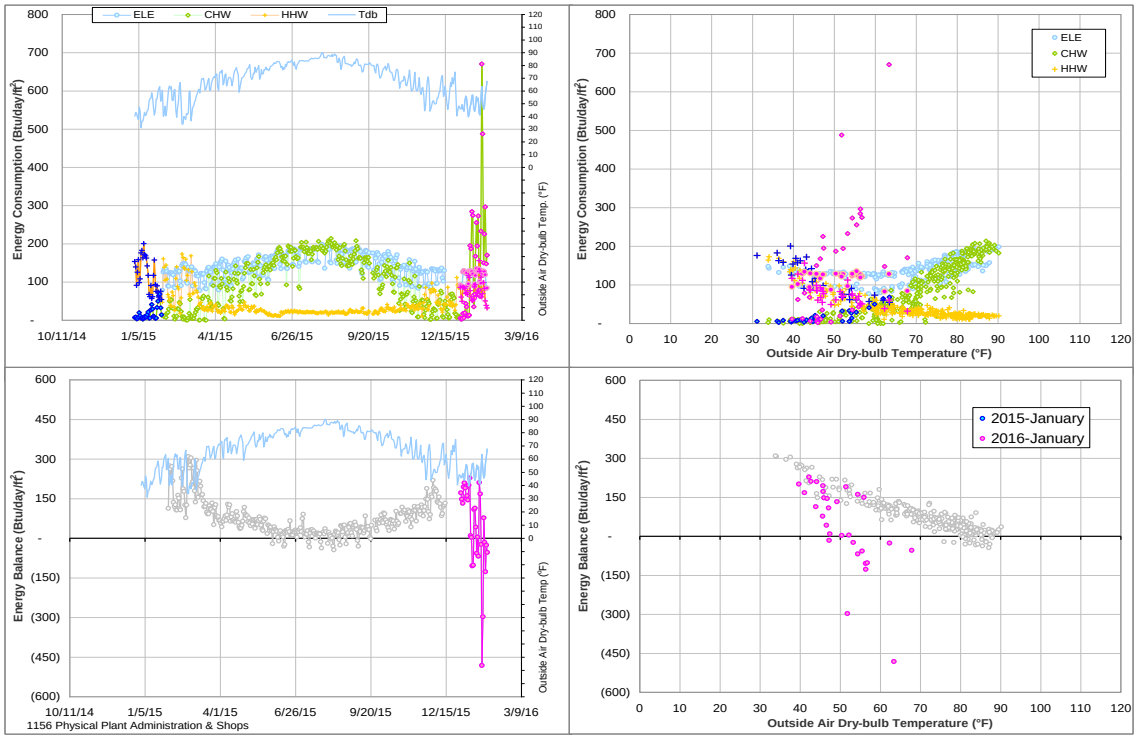
Detected issues in the energy balance and/or the consumption data

Data Type	Description of data behaviors	Period
Energy Balance	The cross-point temperature is high, ~85˚F.	7/1/2014-ongoing
CHW	The consumption level might be low compared to the ELE and HHW use level.	Since the data became available on 7/1/2012.

Comments

The electricity is not available till 7/1/2014. CHW consumption level might be low compared to the ELE and HHW use level. But the CHW consumption level has been stable since the data became available on 7/1/2012. More information might be needed to help identify which type energy causes the high cross-point temperature.

Explanatory Figure: 13 months energy balance plot with original data



Veterinary Research Building (TAMU Bldg# 1197)

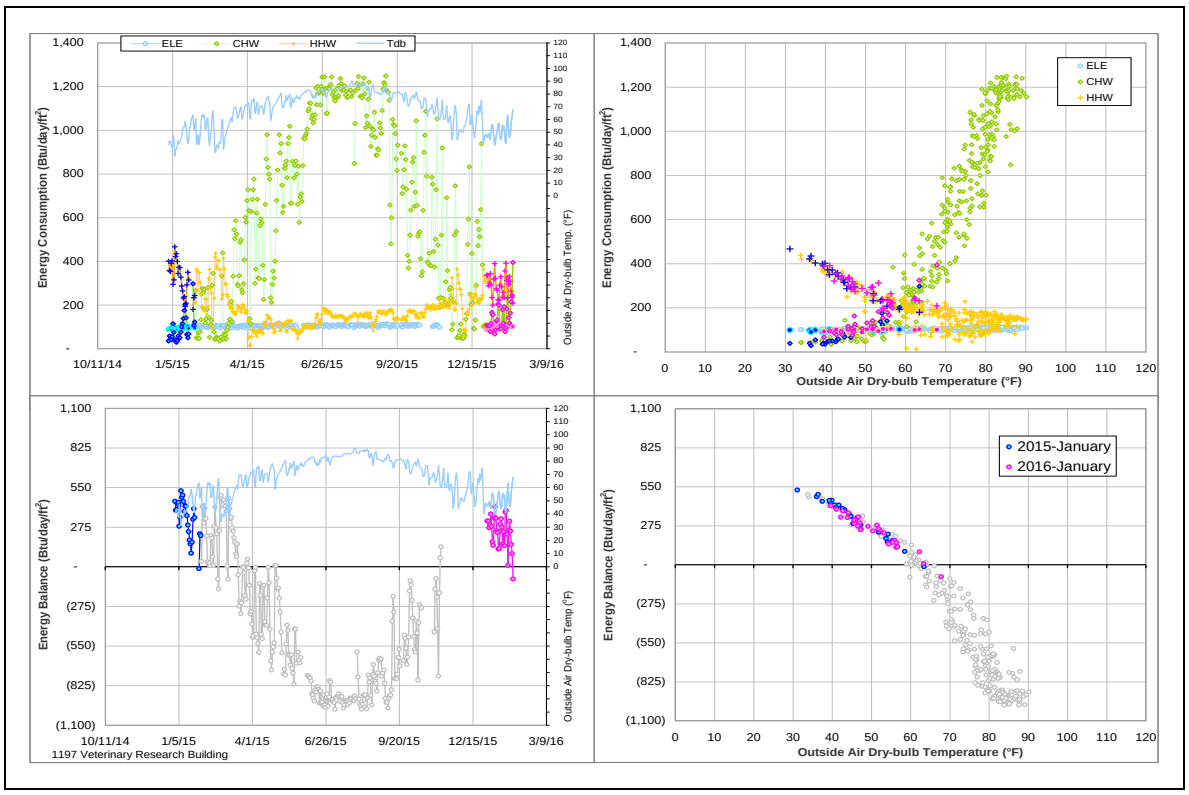
Detected issues in the energy balance and/or the consumption data

Data Type	Description of data behaviors	Period
ELE	The consumption is low for a laboratory building.	Since January 2010 when the meter was added to this report

Comments

The whole building hourly electricity use is in the range 130 kWh to 180 kWh (1.13 W/ft^2 to 1.57 W/ft^2), which is low for a veterinary laboratory building on the campus. This seems to be the reason for the low level of the energy balance load. The temperature-axis intercept of the energy balance is around 62°F.

Explanatory Figure: 13 months energy balance plot with original data



Kleberg Center (TAMU Bldg #1501)

Detected issues in the energy balance and/or the consumption data

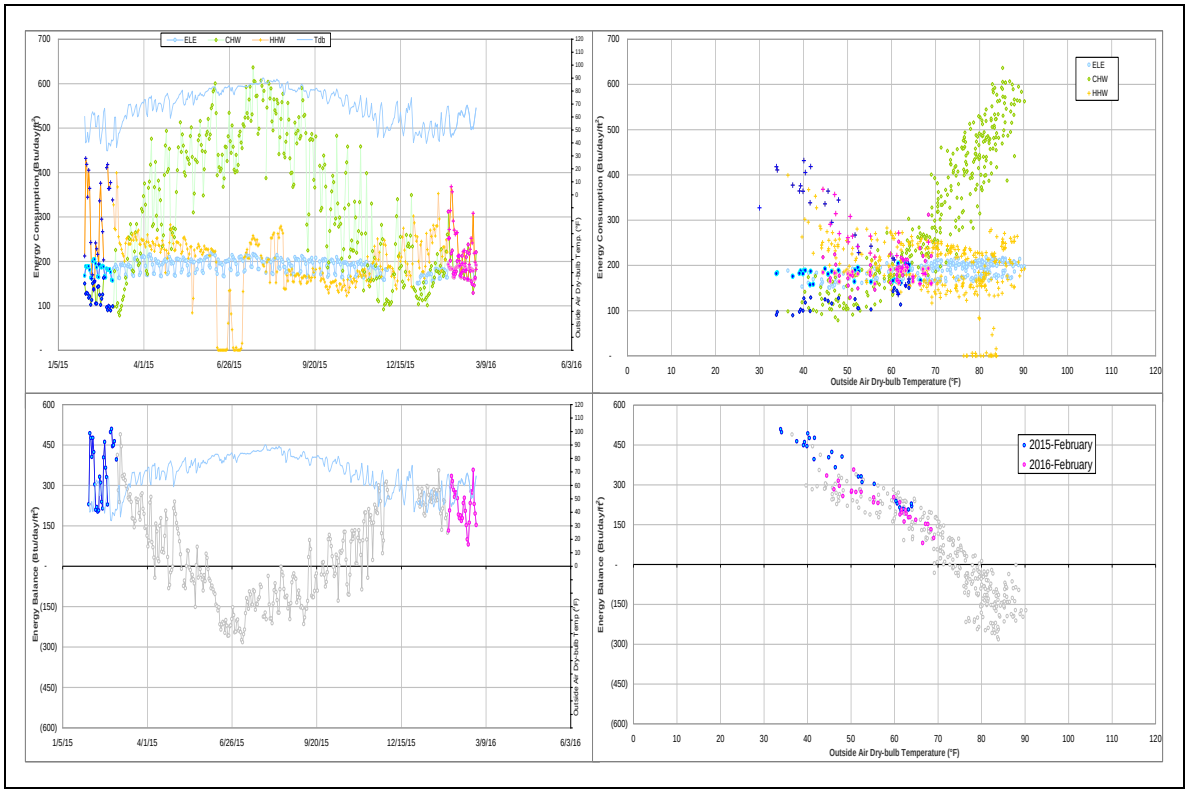
Data Type	Description of data behaviors	Period
CHW	The return temperatures is high. Delta-T is bigger than that for similar buildings in campus.	Since we started to analysis this building in 2006.

Comments

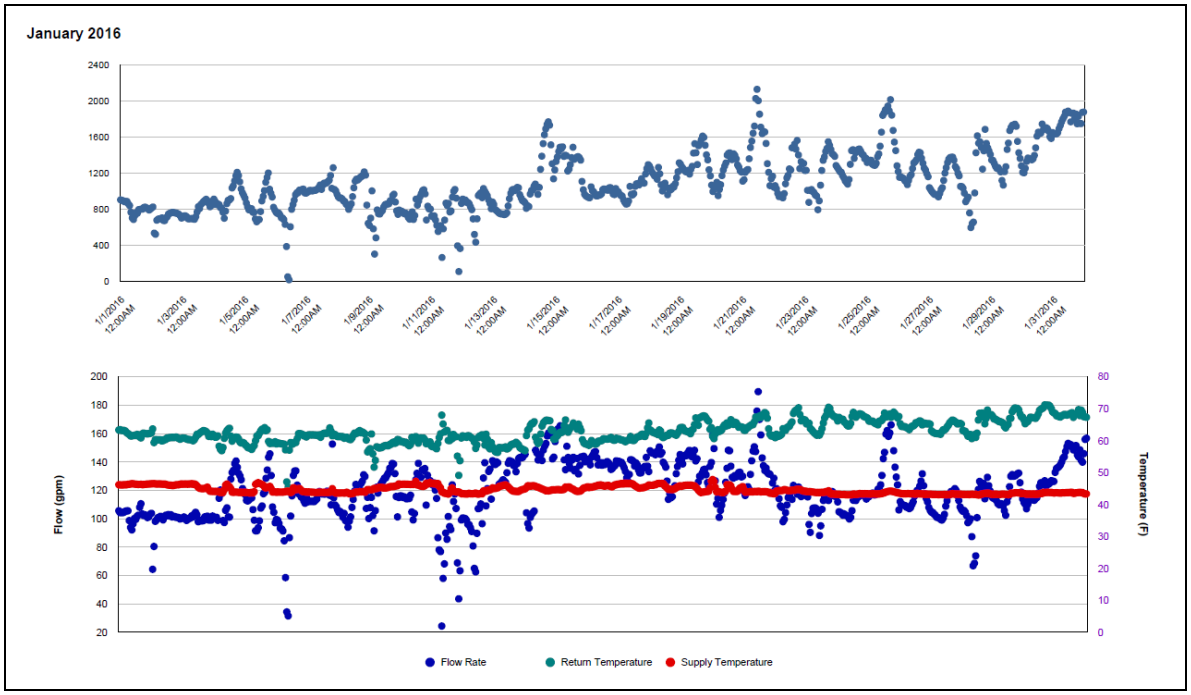
The return temperature for CHW meter was high, about 60 - 70˚F for years. The return temperature increased further on 11/13/2014 and it reached 80˚F sometimes. Delta-T for this building (25 - 35˚F) is much bigger than that for similar buildings in campus. It is suggested to investigate the temperature sensor for CHW meter.

The ESCO period for this building is 5/1/2011-1/1/2012. The CHW consumption level has been stable for over three years after ESCO period.

Explanatory Figure: 13 months energy balance plot with original data



Explanatory Figure: Time series plots of hourly energy consumption, flow rate, and supply and return temperatures from the utilities office (CHW during January 2016)



West Campus Parking Garage (TAMU Bldg #1559)

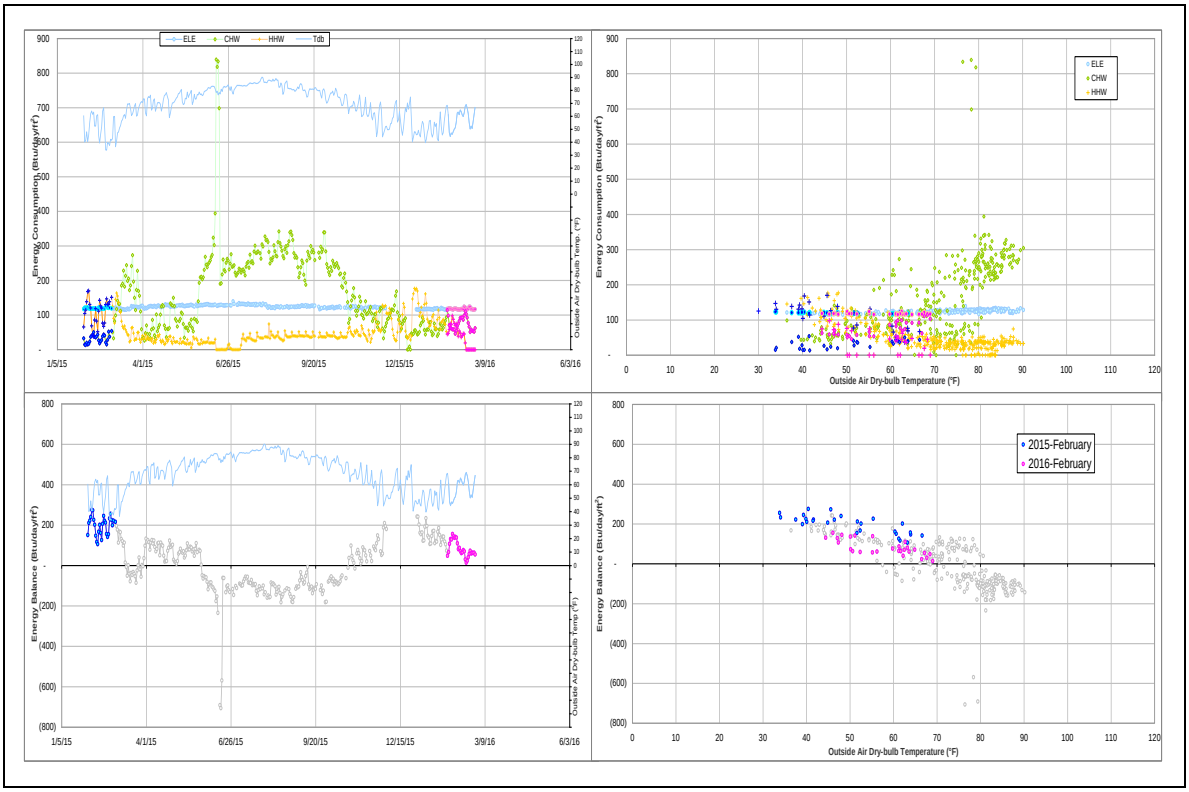
Detected issues in the energy balance and/or the consumption data

Data Type	Description of data behaviors	Period
CHW	The consumption level decreased largely. The scattering data was observed.	October 2013 - ongoing
	The consumption level increased. The scattering data was observed.	5/28/2015 - ongoing

Comments

The CHW consumption level decreased from 800 Btu/day/ft^2 to 100 Btu/day/ft^2 since October 2013 mainly caused by a decrease in the flow rate. The consumption pattern was very scattering and the cross-point temperature is high, 75-85˚F, after this decrease. The CHW consumption increased at the end of May 2015 which causing the cross-point shift to more reasonable range. We need more data to verify this trend. But the consumption pattern is still very scattering.

Explanatory Figure: 13 months energy balance plot with original data



International Ocean Discovery Building (TAMU Bldg #1601)

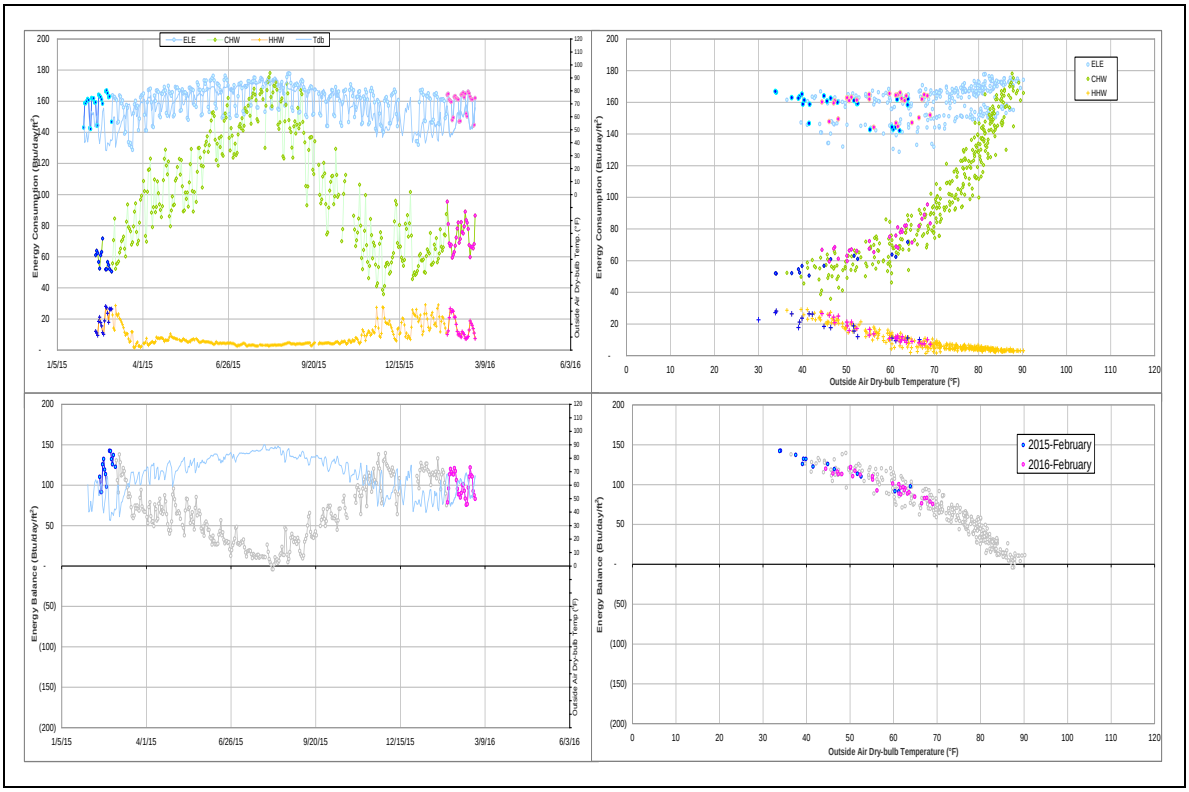
Detected issues in the energy balance and/or the consumption data

Data Type	Description of data behaviors	Period
Energy Balance	The cross-point is high, around 88 °F.	Since data became available in Feb 2015

Comments

The cross-point temperature is high for this building, around 88°F. The daily CHW consumption for last year is 40 – 180 Btu/day/ft^2. The CHW consumption level is low compared to ELE and HHW levels. This building might have its chillers.

Explanatory Figure: 13 months energy balance plot with original data



Offshore Technology Research Center (TAMU Bldg #1604)

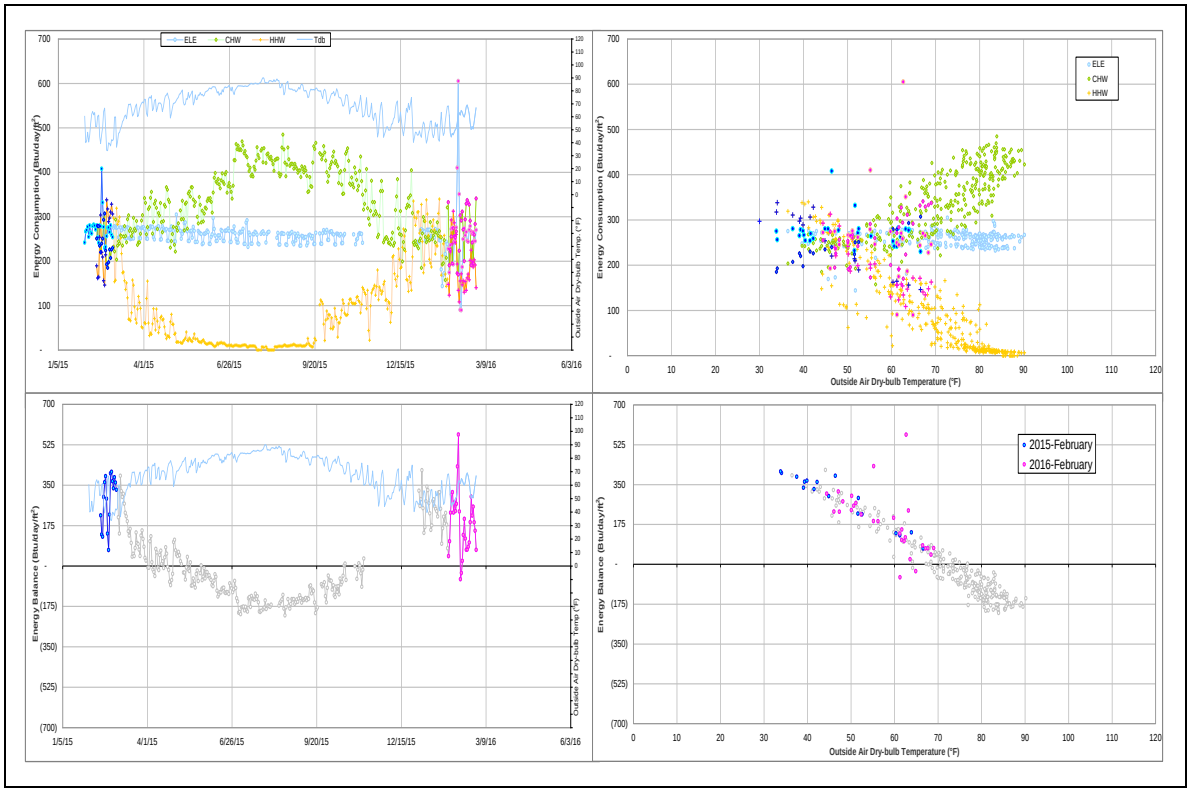
Detected issues in the energy balance and/or the consumption data

Data Type	Description of data behaviors	Period
ELE (006660)	The daily consumption was recorded as zero for the majority of the days.	Since data became available in Feb 2015

Comments

There are two ELE meters (006659 and 006660). The daily consumption for MeterID 006660 was recorded as zero for the majority of the days since data became available in February 2015. The daily consumption for several days in current month increased largely and caused scattering energy balance.

Explanatory Figure: 13 months energy balance plot with original data



Engineering Research Building (TAMU Bldg #1611)

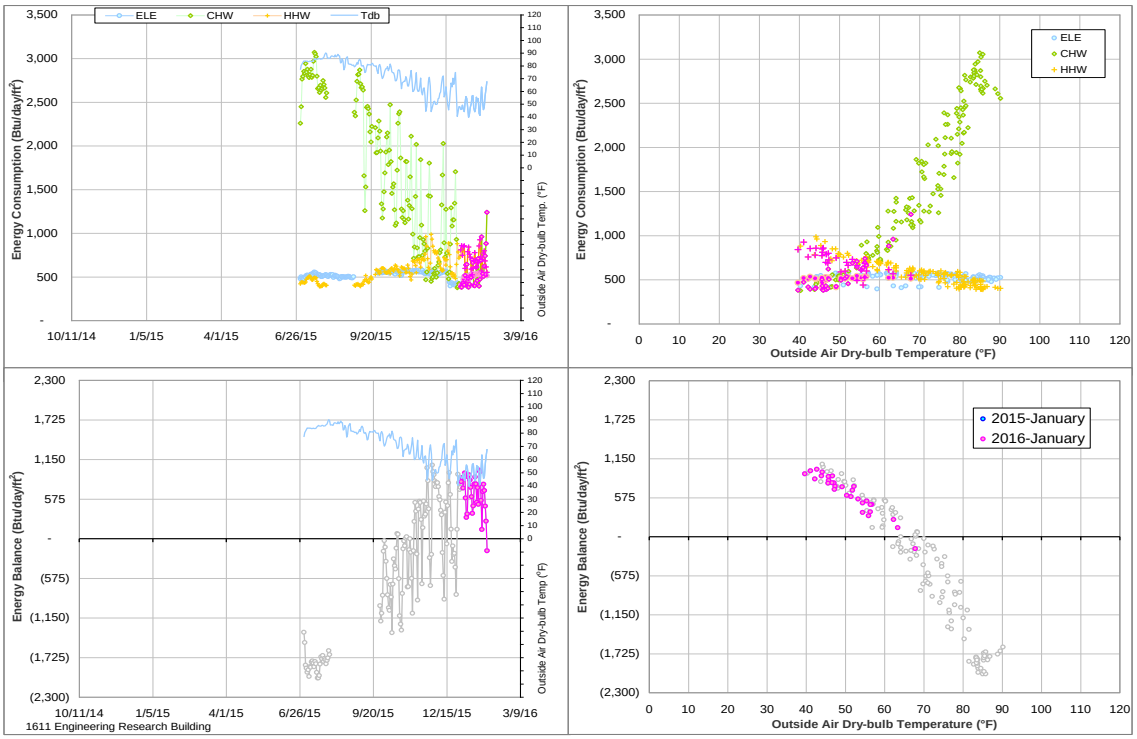
Detected issues in the energy balance and/or the consumption data

Data Type	Description of data behaviors	Period
ELE, CHW and HHW	The consumption levels are too high.	Since the data became available in July 2015

Comments

The energy data for this building just becomes available since July 2015. All consumption levels seem to be high. ELE: ~500 Btu/day/ft^2; CHW: 500 – 3100 Btu/day/ft^2; HHW: 400 - 1000 Btu/day/ft^2. However, the cross-point of temperature for energy balance load is in the reasonable range.

Explanatory Figure: 13 months energy balance plot with original data



NCTM Manufacturing Building (TAMU Bldg #10226)

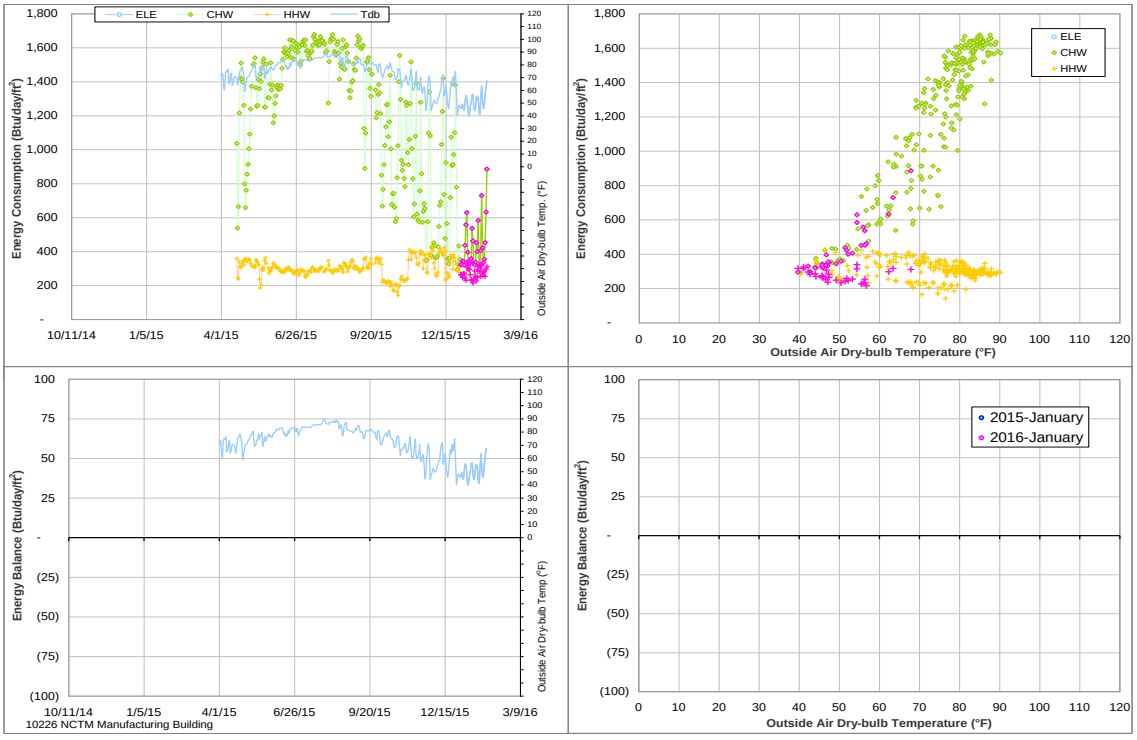
Detected issues in the energy balance and/or the consumption data

Data Type	Description of data behaviors	Period
ELE	The data was unavailable	Since we started to analysis this building in April 2015

Comments

We started to analysis this building since April 2015 and the electricity data was unavailable.

Explanatory Figure: 13 months energy balance plot with original data



III. Time Series Plots for February 2016 Consumption

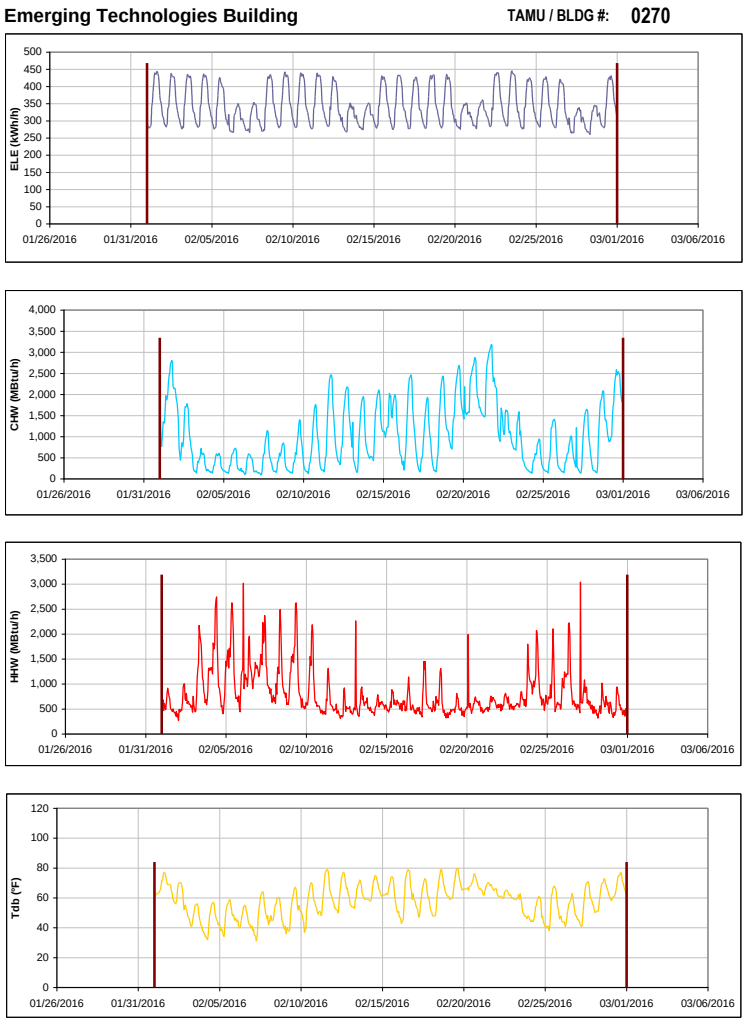


Figure III-1 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Emerging Technologies Building during the Month of TSPlots and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

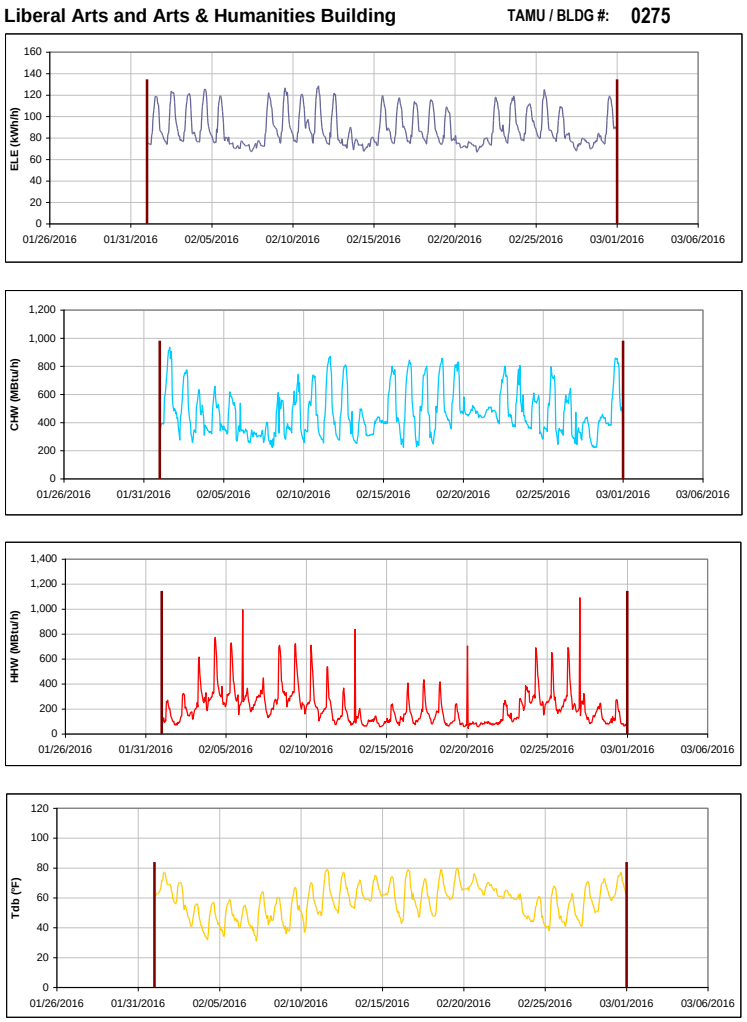


Figure III-2 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Liberal Arts and Arts & Humanities Building during the Month of TSPlots and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

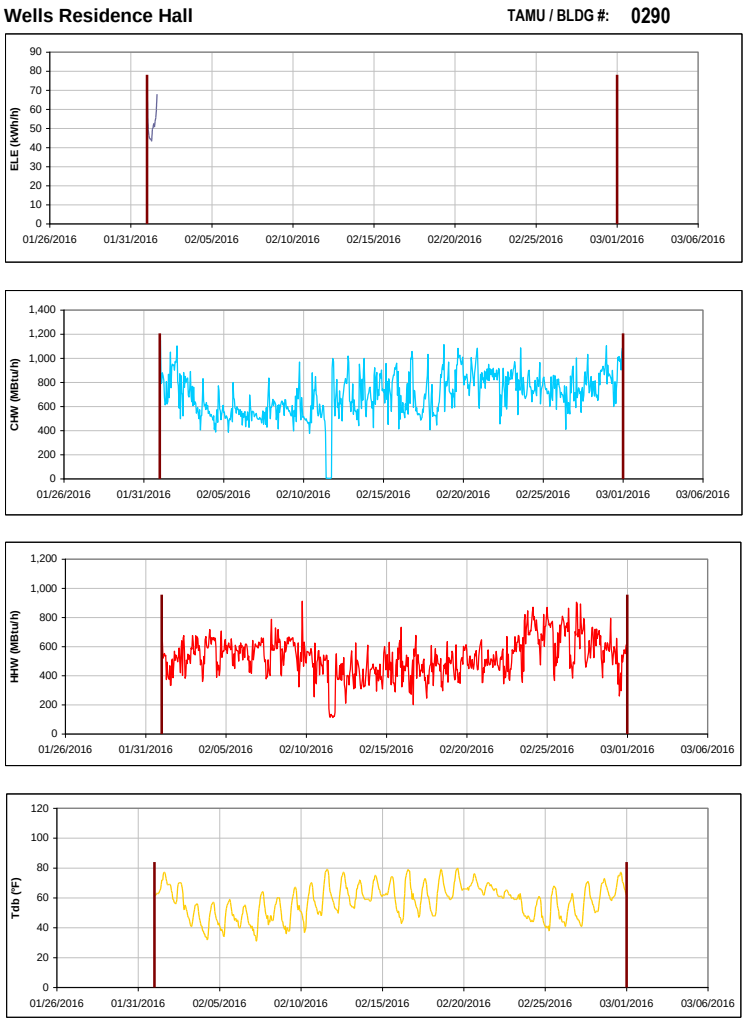


Figure III-3 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Wells Residence Hall during the Month of TSPlots and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

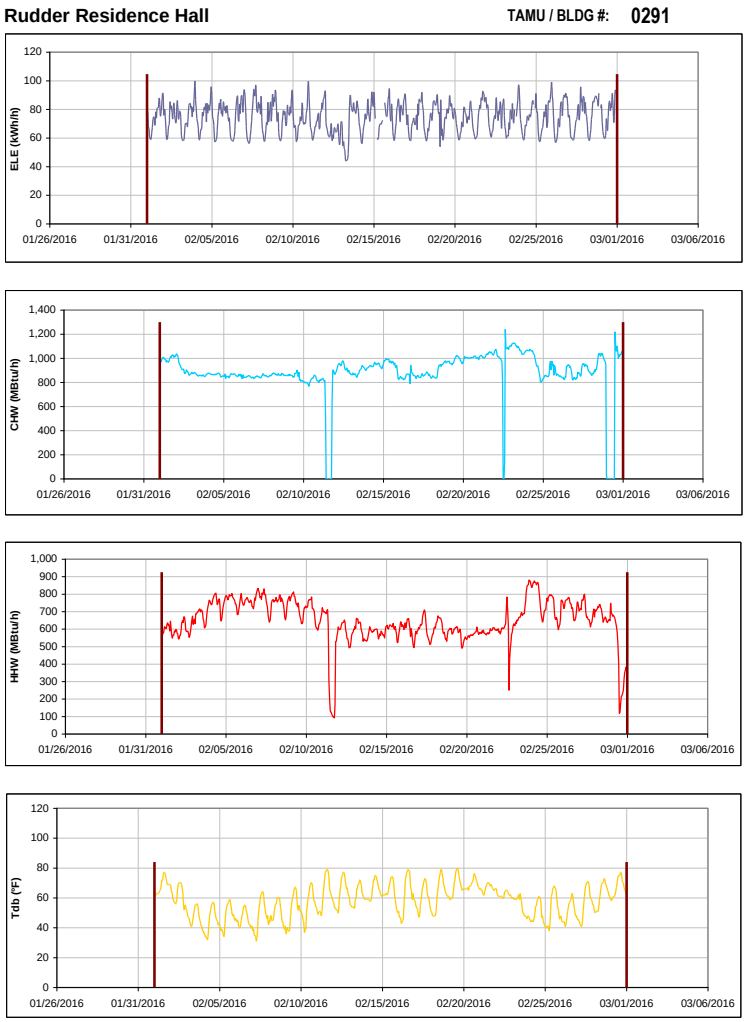


Figure III-4 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Rudder Residence Hall during the Month of TSPlots and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

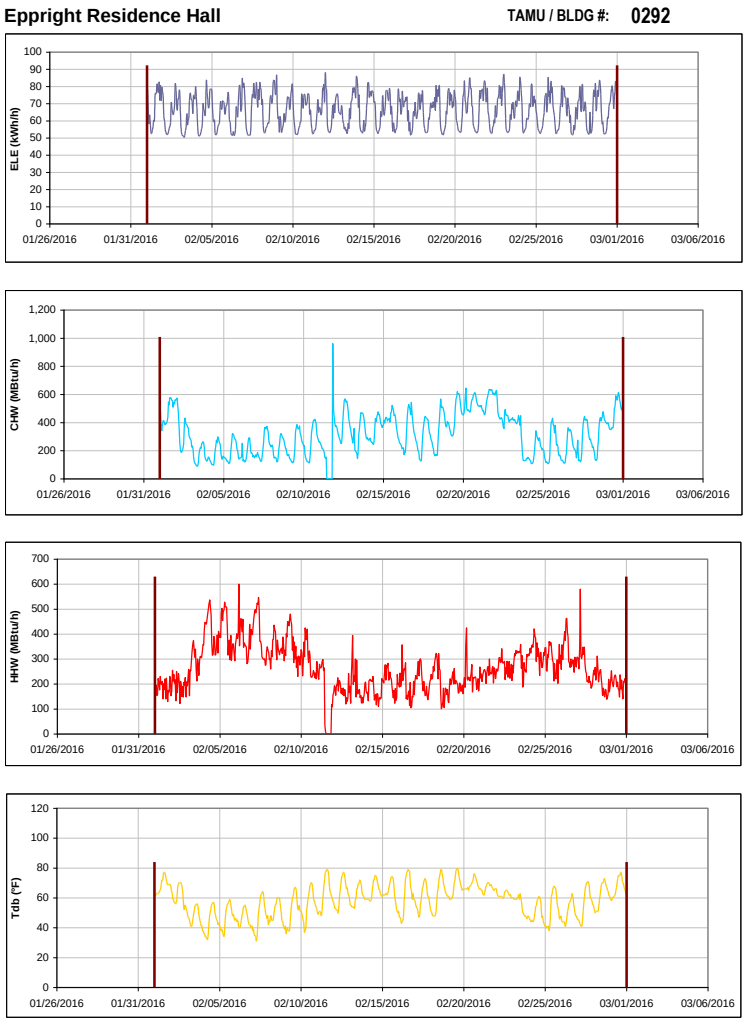


Figure III-5 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Eppright Residence Hall during the Month of TSPlots and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

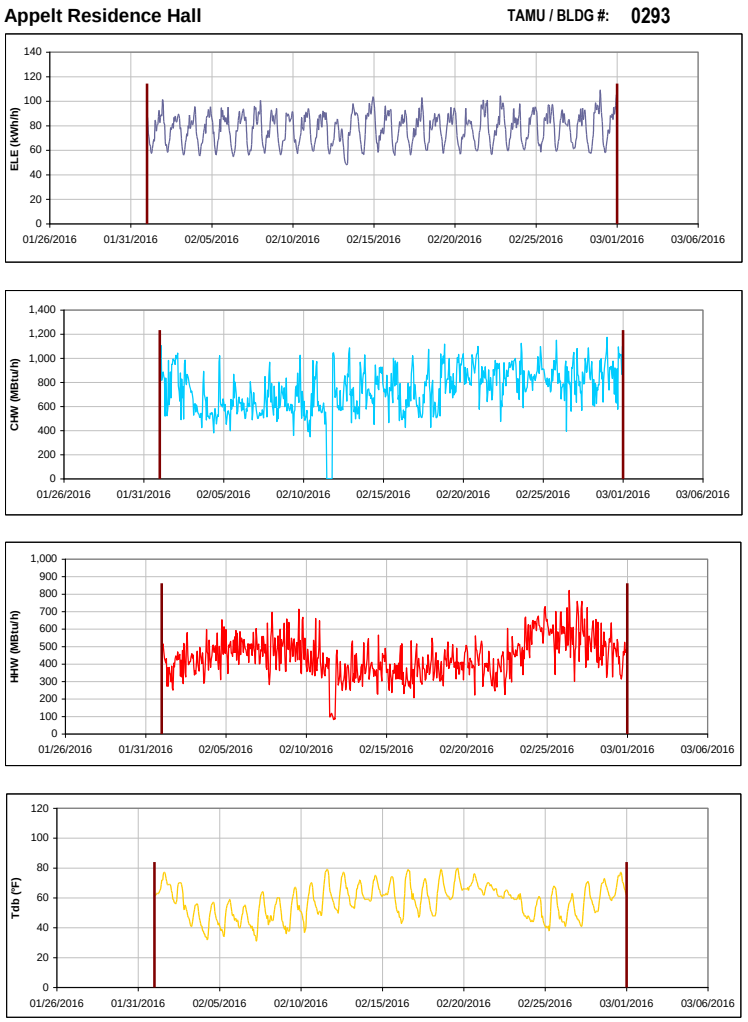


Figure III-6 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Appelt Residence Hall during the Month of TSPlots and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

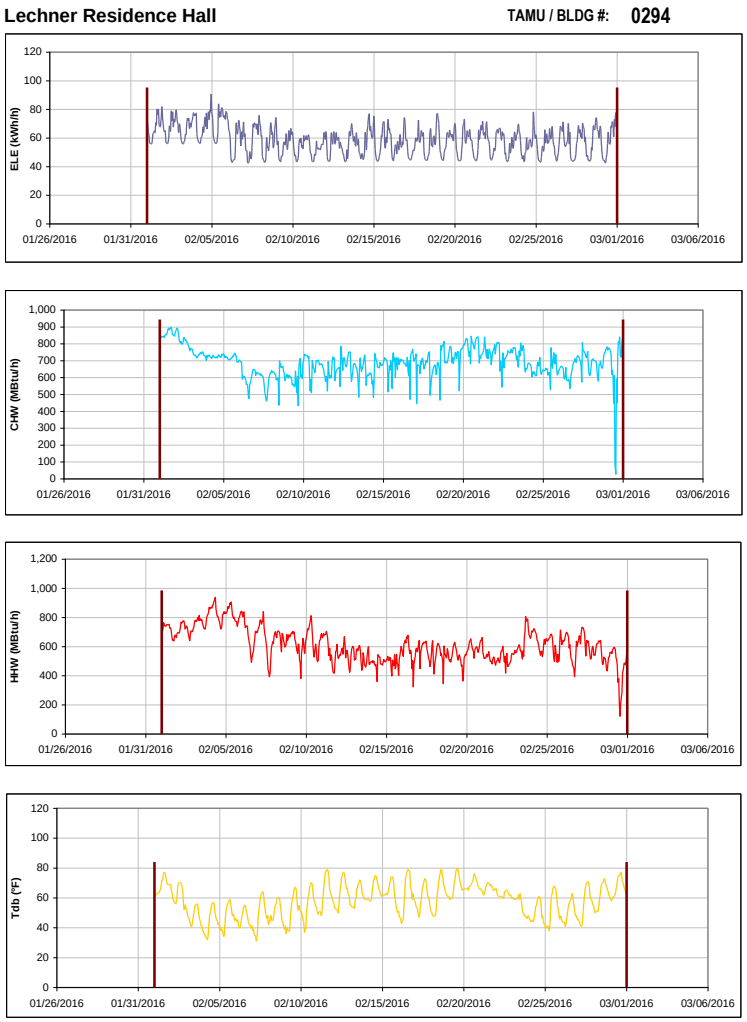


Figure III-7 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Lechner Residence Hall during the Month of TSPlots and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

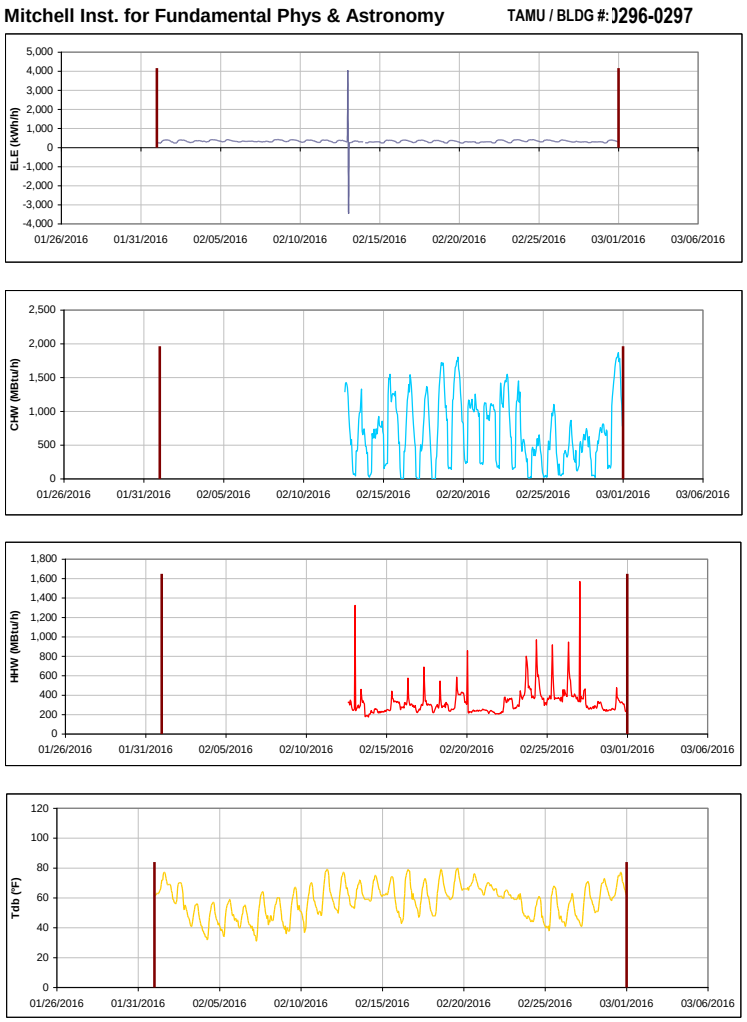


Figure III-8 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Mitchell Inst. for Fundamental Phys & Astronomy during the Month of TSPlots and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

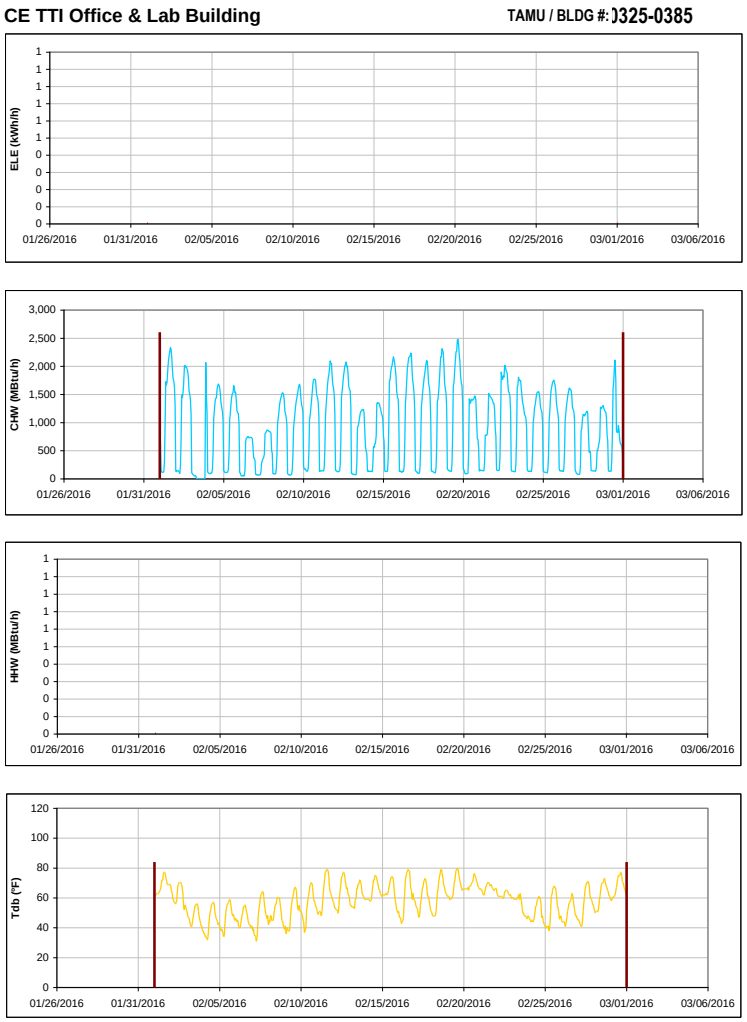


Figure III-9 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for CE TTI Office & Lab Building during the Month of TSPlots and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

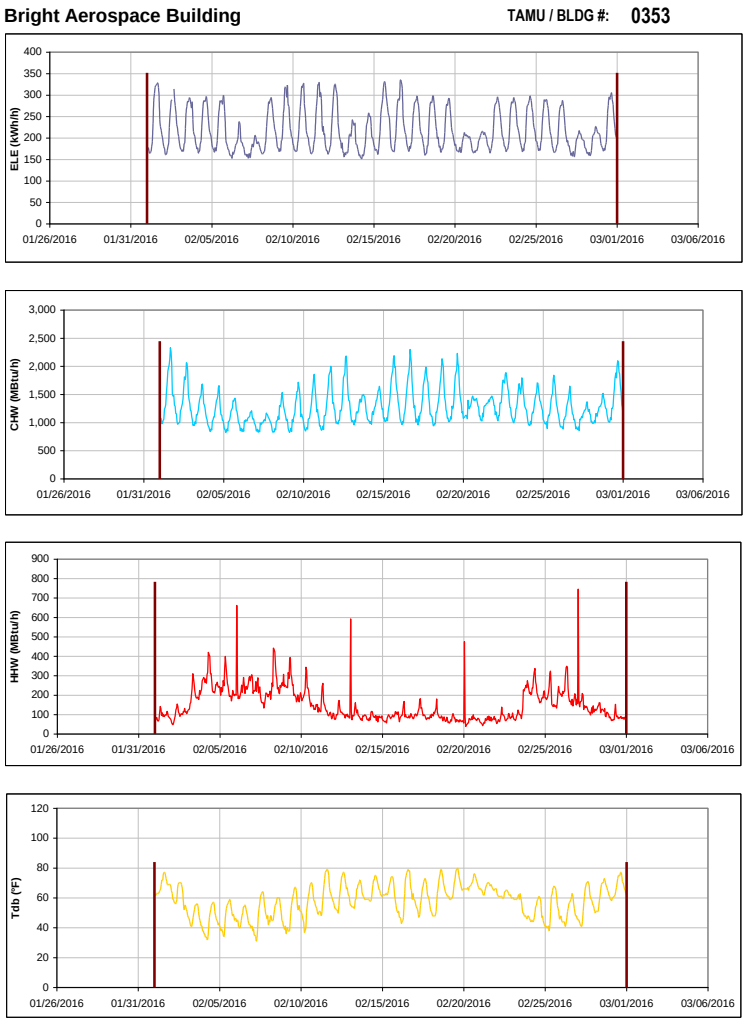


Figure III-10 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Bright Aerospace Building during the Month of TSPlots and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

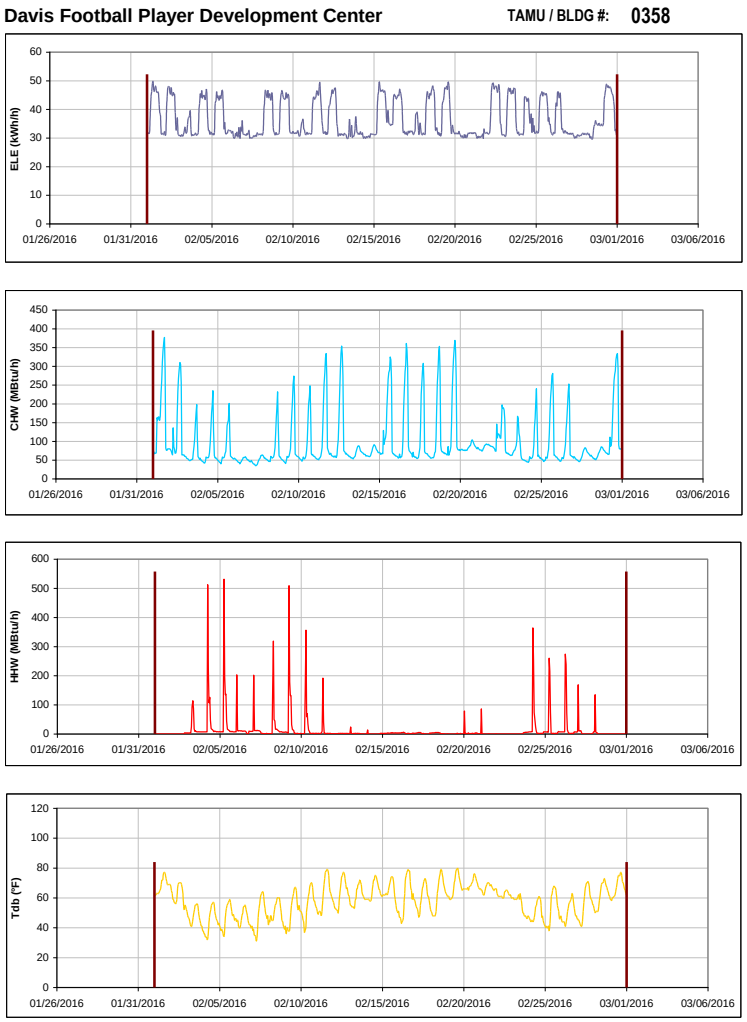


Figure III-11 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Davis Football Player Development Center during the Month of TSPlots and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

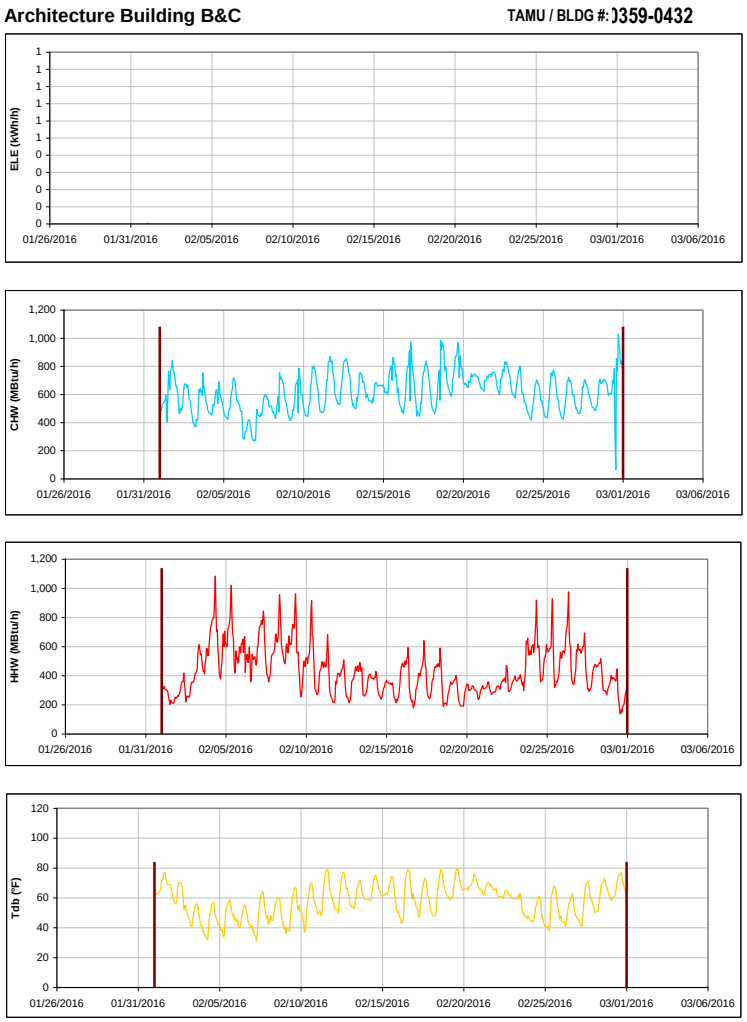


Figure III-12 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Architecture Building B&C during the Month of TSPlots and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

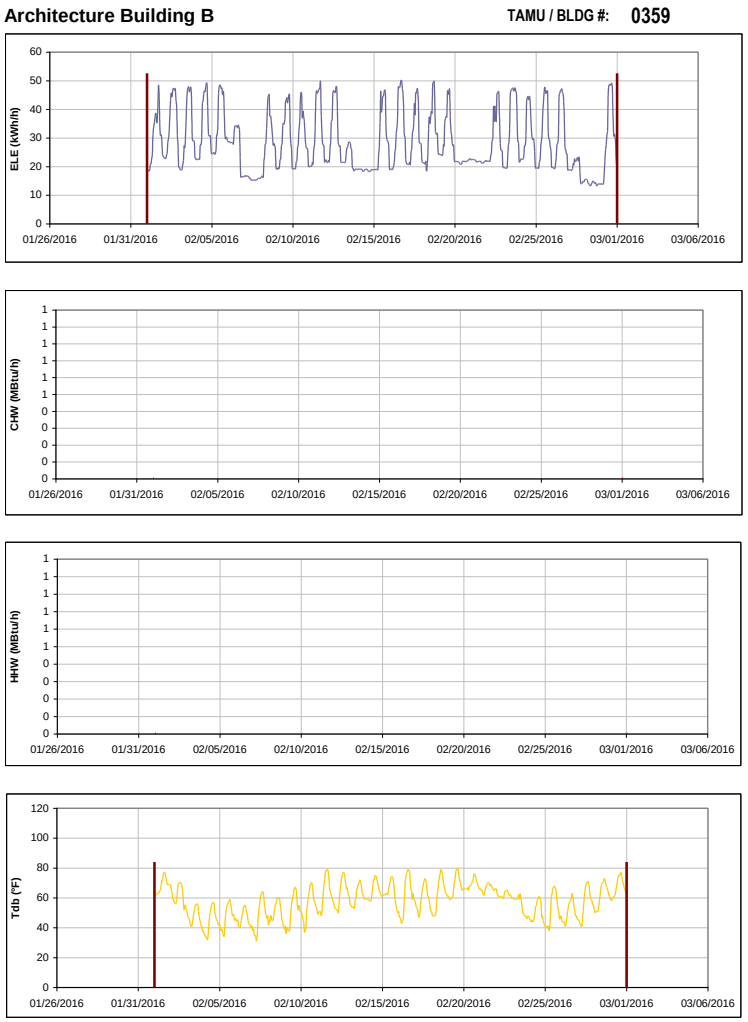


Figure III-13 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Architecture Building B during the Month of TSPlots and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

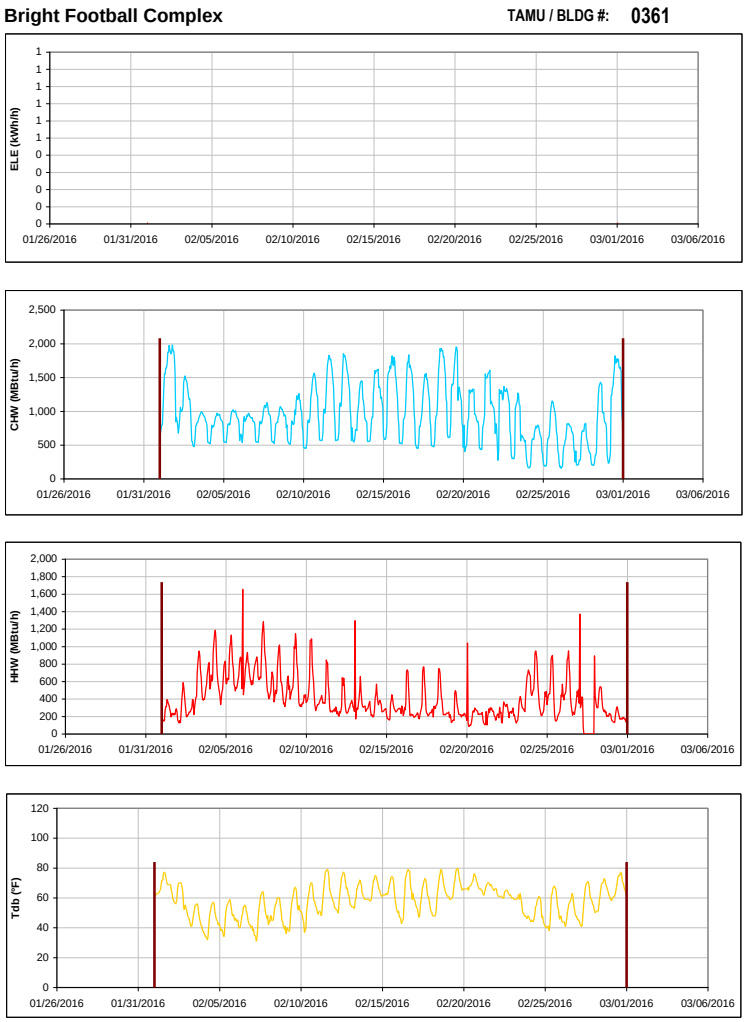


Figure III-14 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Bright Football Complex during the Month of TSPlots and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

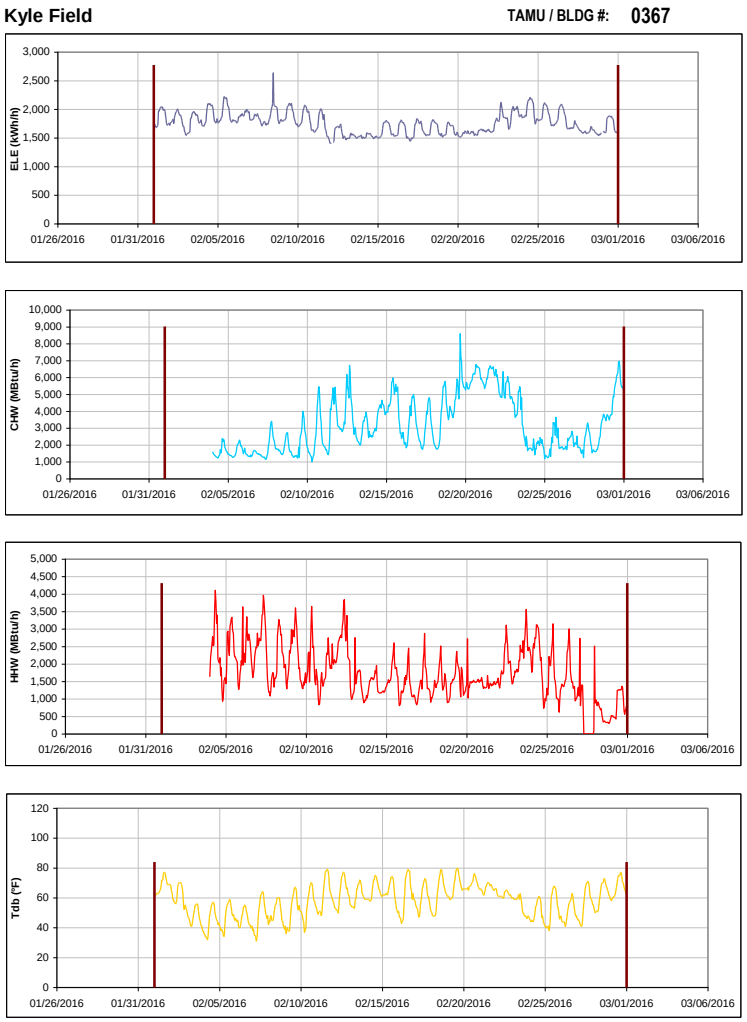


Figure III-15 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Kyle Field during the Month of TSPlots and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

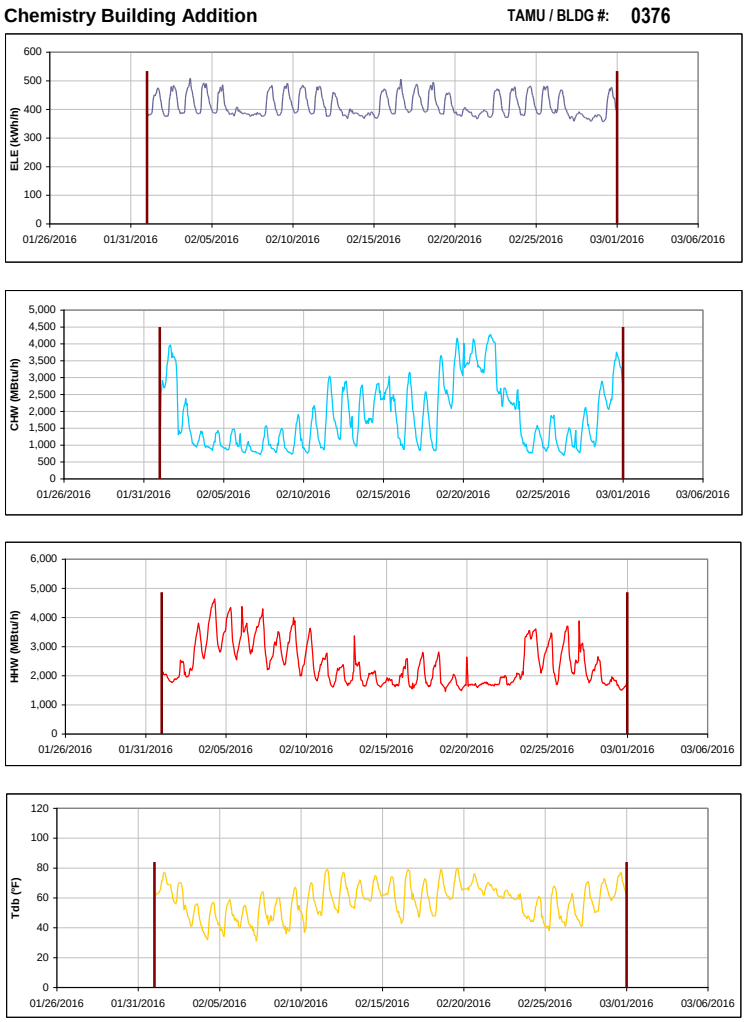


Figure III-16 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Chemistry Building Addition during the Month of TSPlots and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

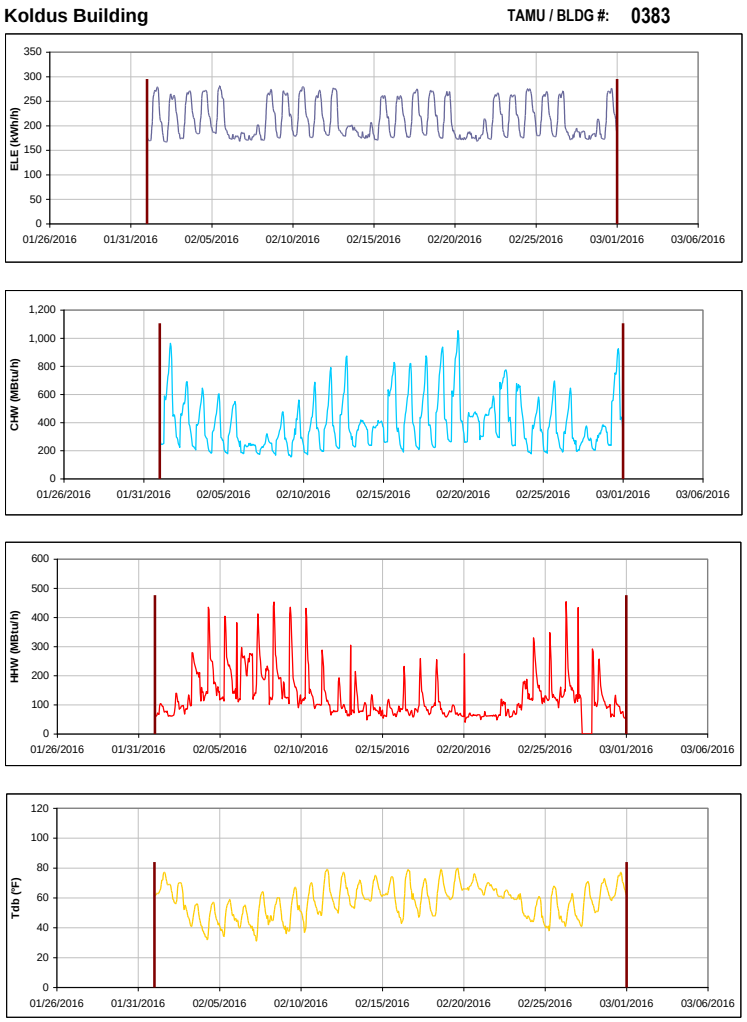


Figure III-17 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Koldus Building during the Month of TSPlots and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

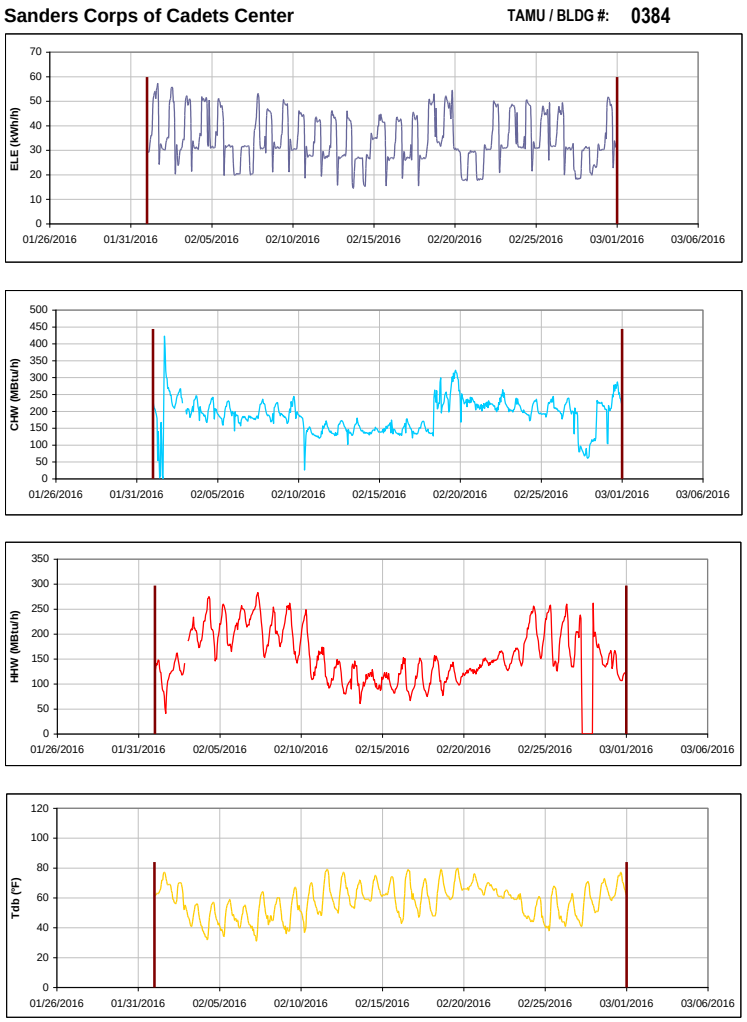


Figure III-18 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Sanders Corps of Cadets Center during the Month of TSPlots and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

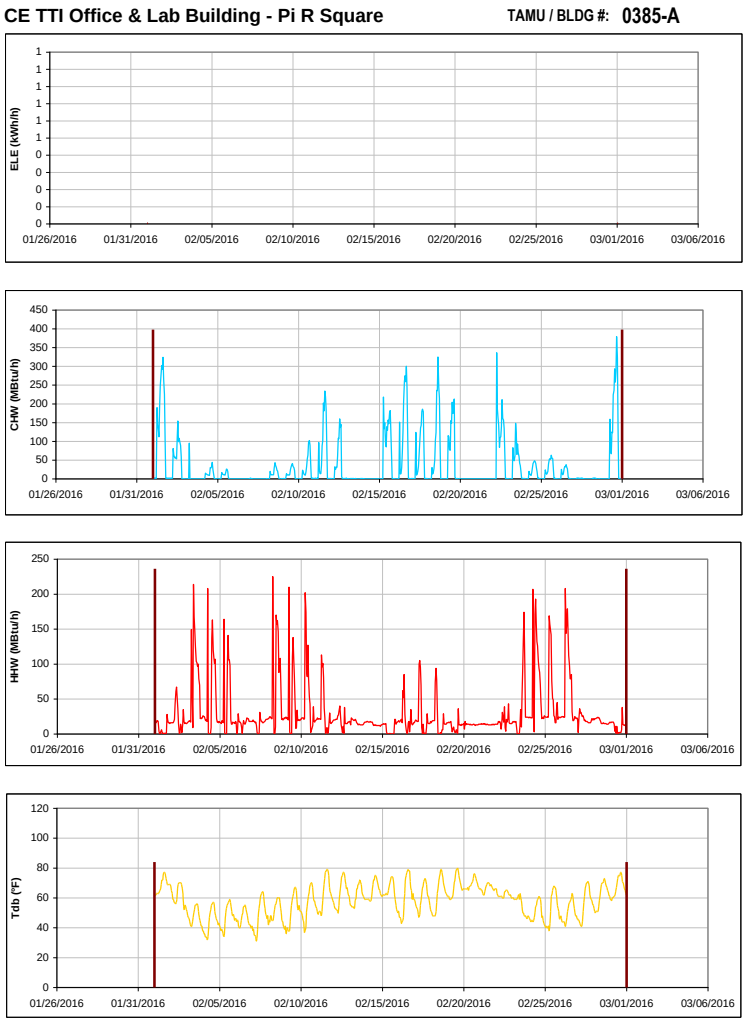


Figure III-19 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for CE TTI Office & Lab Building - Pi R Square during the Month of TSPlots and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

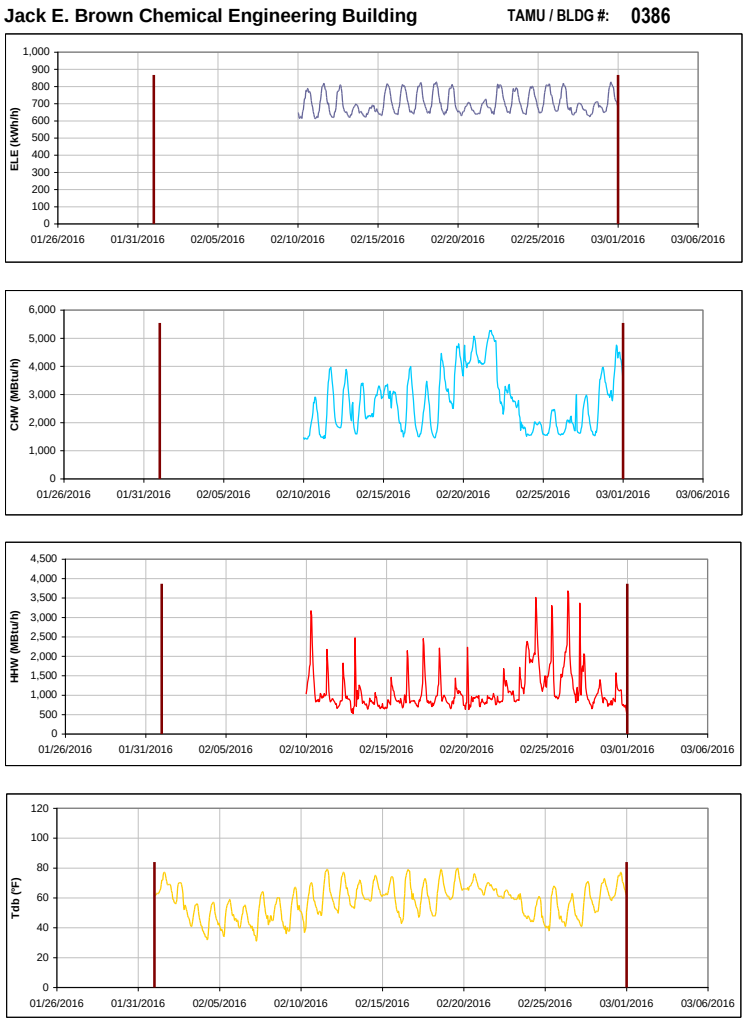


Figure III-20 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Jack E. Brown Chemical Engineering Building during the Month of TSPlots and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

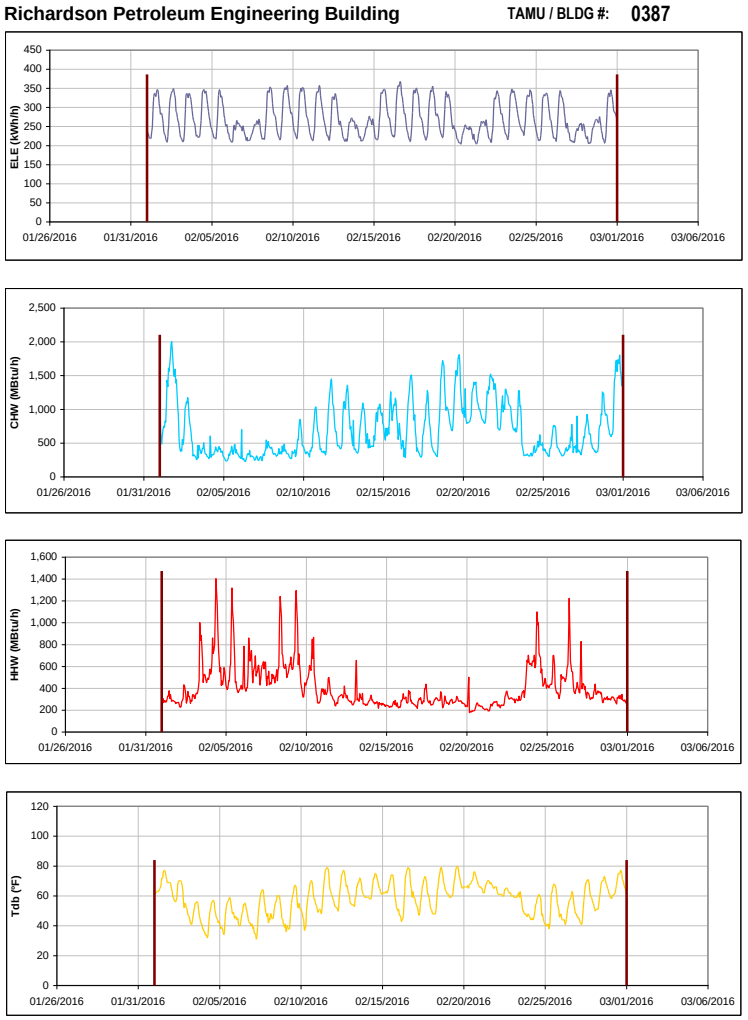


Figure III-21 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Richardson Petroleum Engineering Building during the Month of TSPlots and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

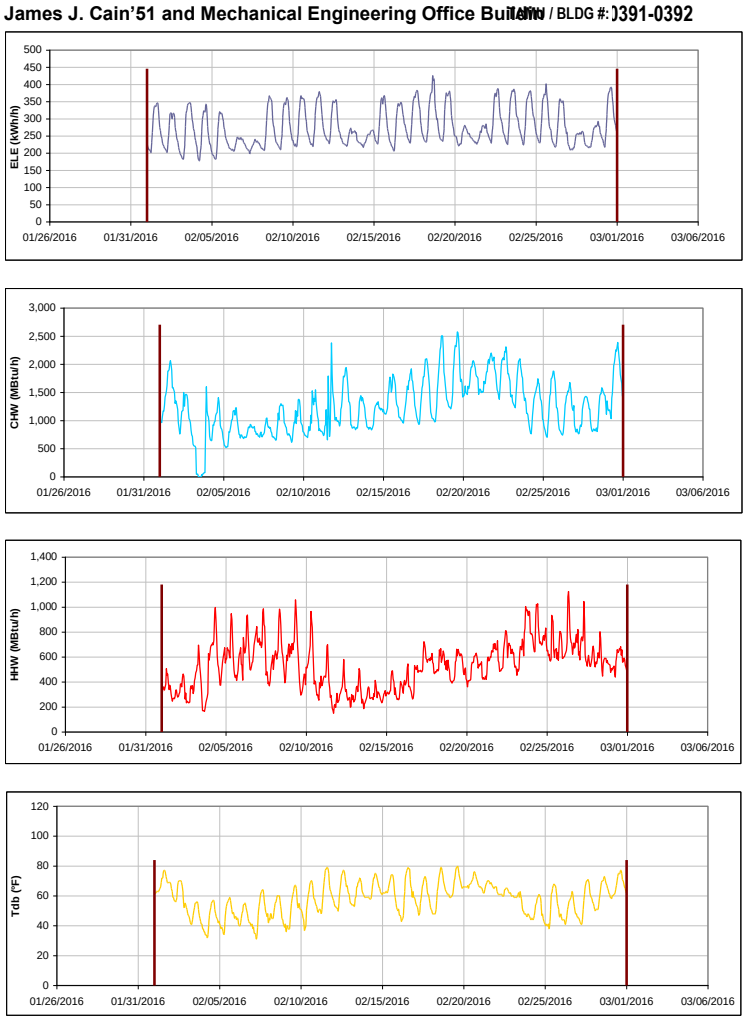


Figure III-22 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for James J. Cain'51 and Mechanical Engineering Office Building during the Month of TSPlots and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

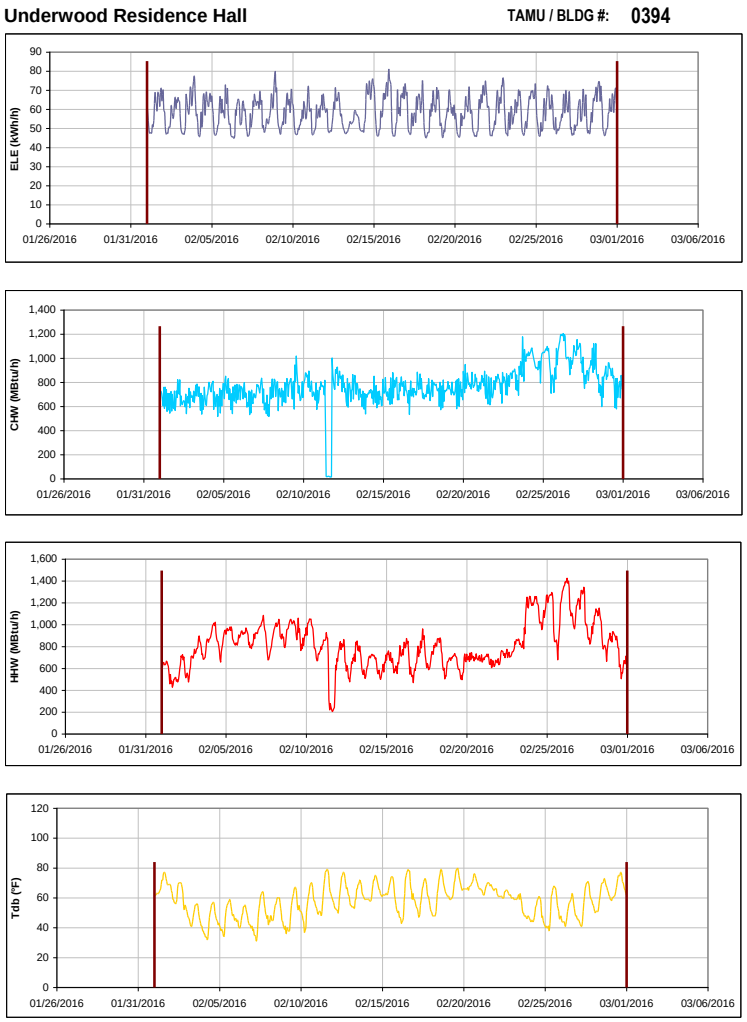


Figure III-23 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Underwood Residence Hall during the Month of TSPlots and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

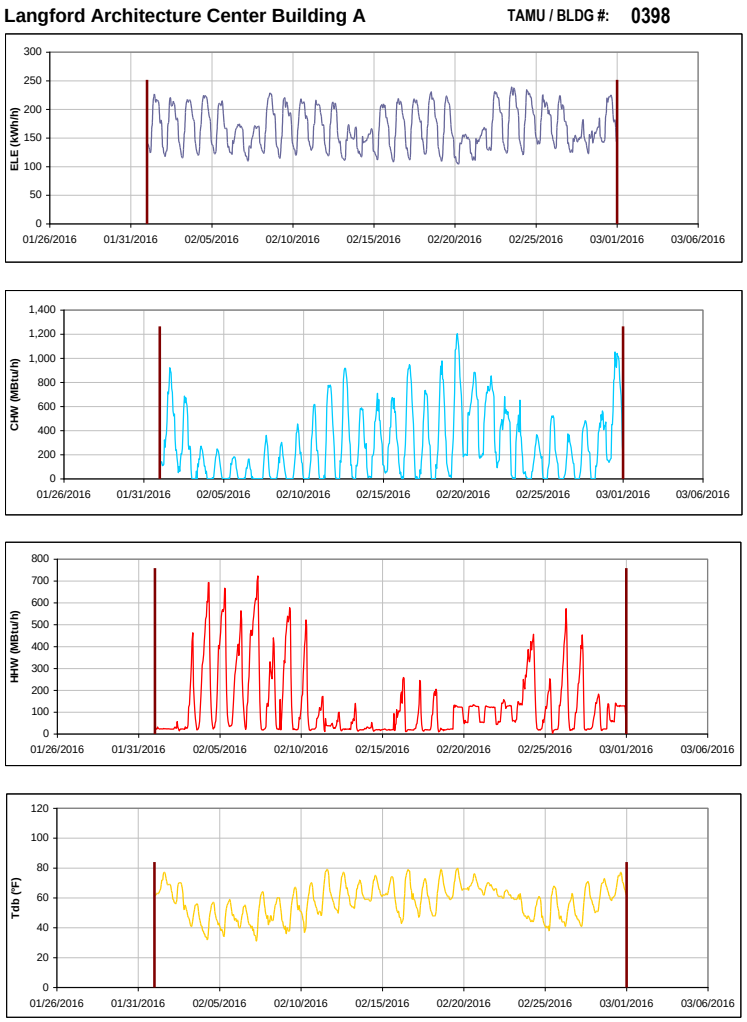


Figure III-24 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Langford Architecture Center Building A during the Month of TSPlots and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

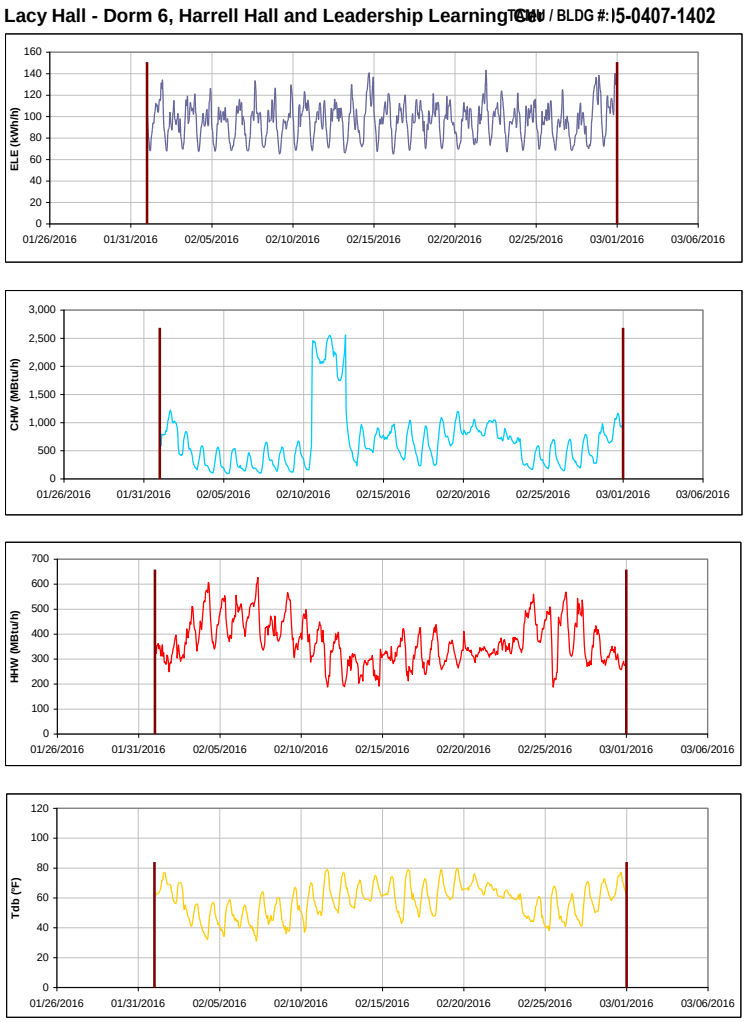


Figure III-25 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Lacy Hall - Dorm 6, Harrell Hall and Leadership Learning Center during the Month of TSPlots and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

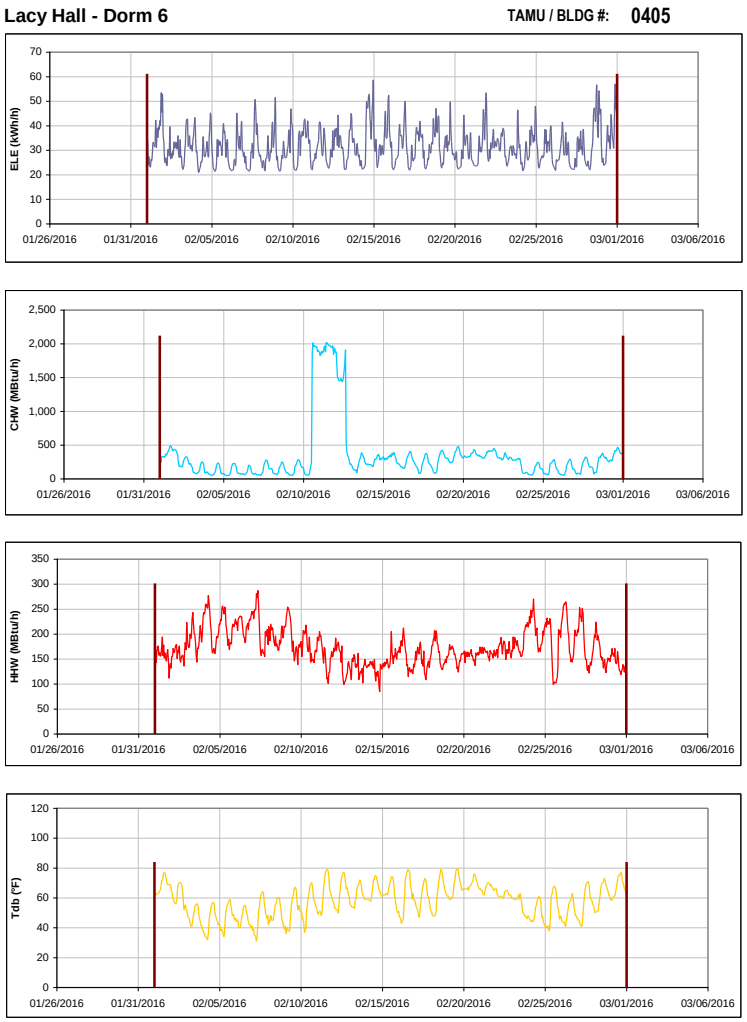


Figure III-26 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Lacy Hall - Dorm 6 during the Month of TSPlots and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

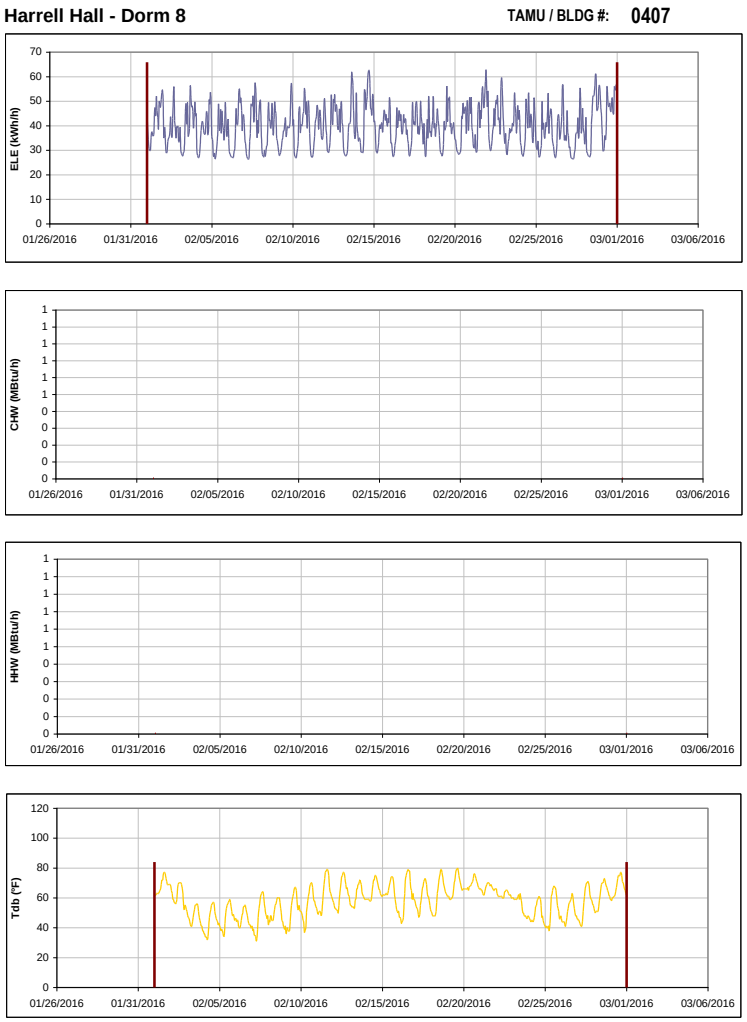


Figure III-27 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Harrell Hall - Dorm 8 during the Month of TSPlots and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

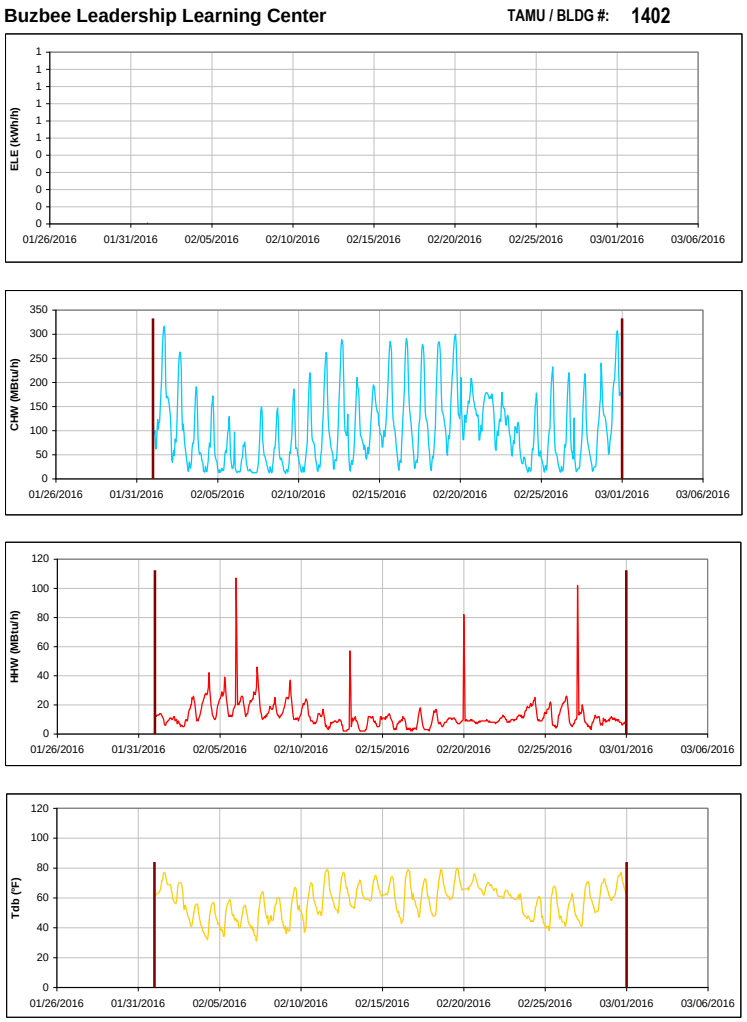


Figure III-28 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Buzbee Leadership Learning Center during the Month of TSPlots and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

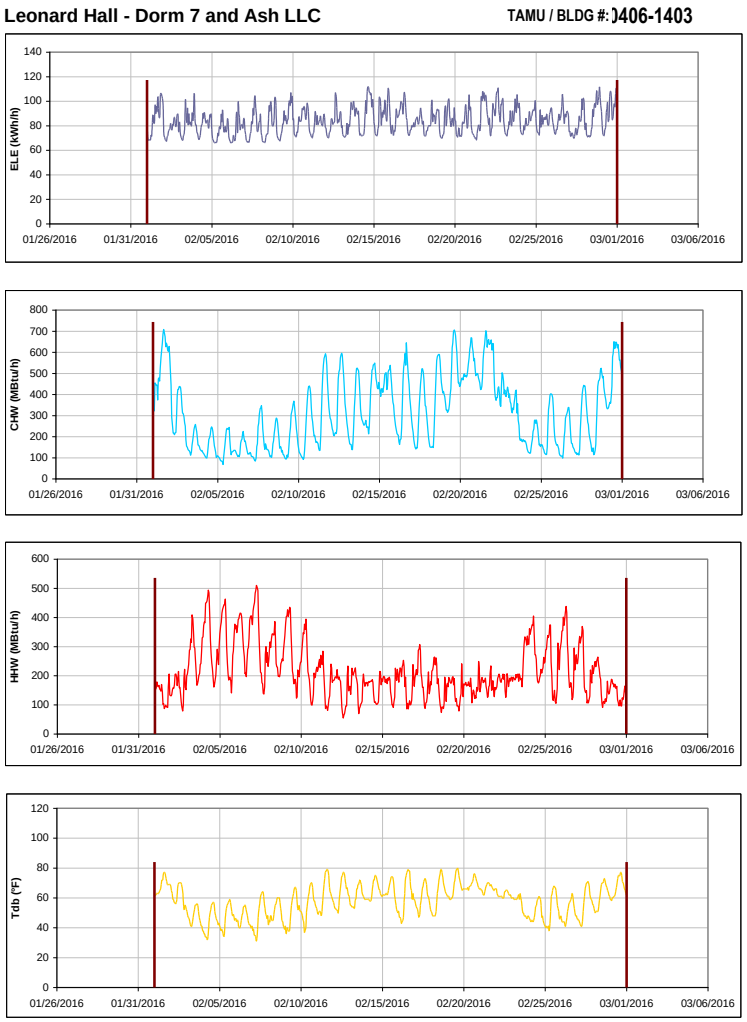


Figure III-29 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Leonard Hall - Dorm 7 and Ash LLC during the Month of TSPlots and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

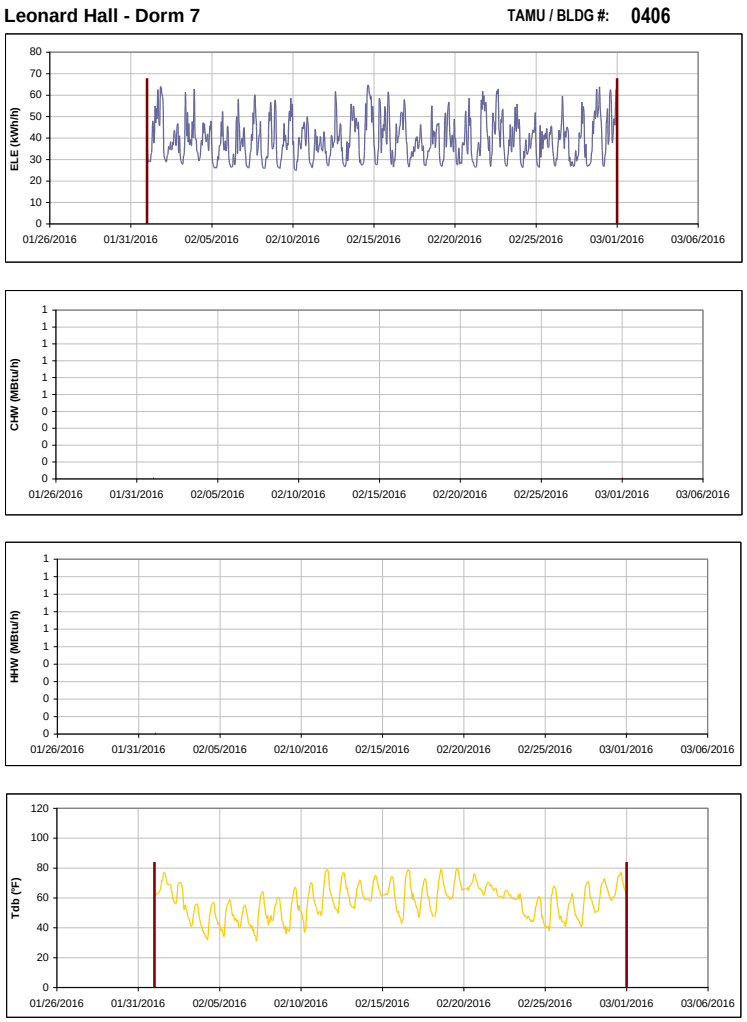


Figure III-30 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Leonard Hall - Dorm 7 during the Month of TSPlots and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

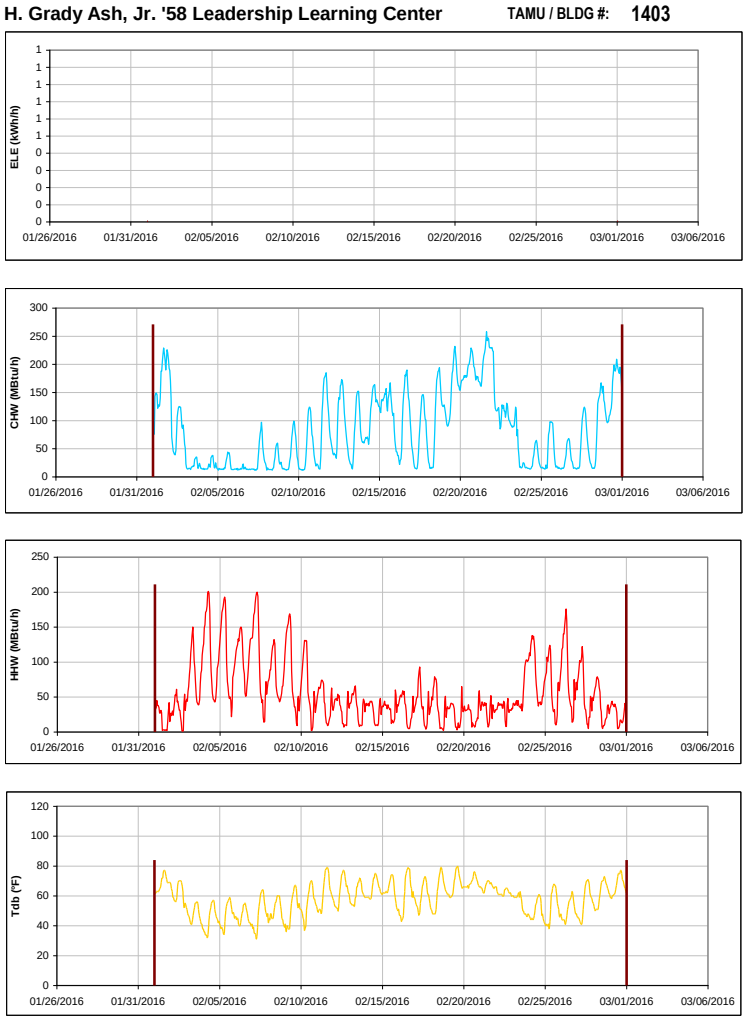


Figure III-31 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for H. Grady Ash, Jr. '58 Leadership Learning Center during the Month of TSPlots and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

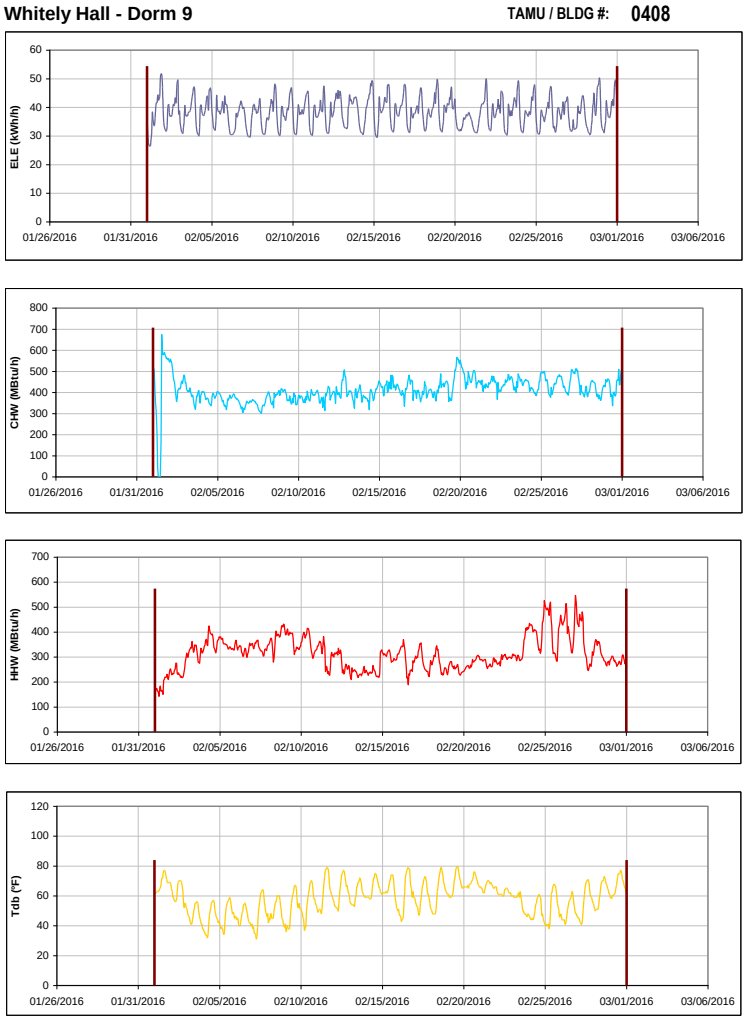


Figure III-32 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Whitely Hall - Dorm 9 during the Month of TSPlots and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

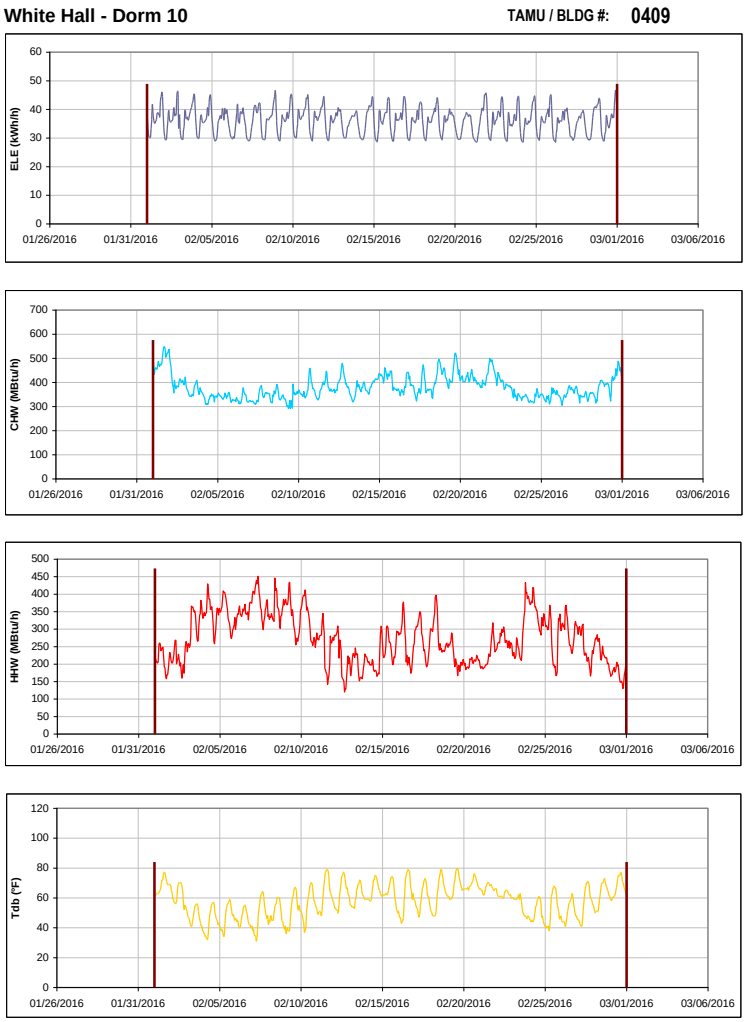


Figure III-33 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for White Hall - Dorm 10 during the Month of TSPlots and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

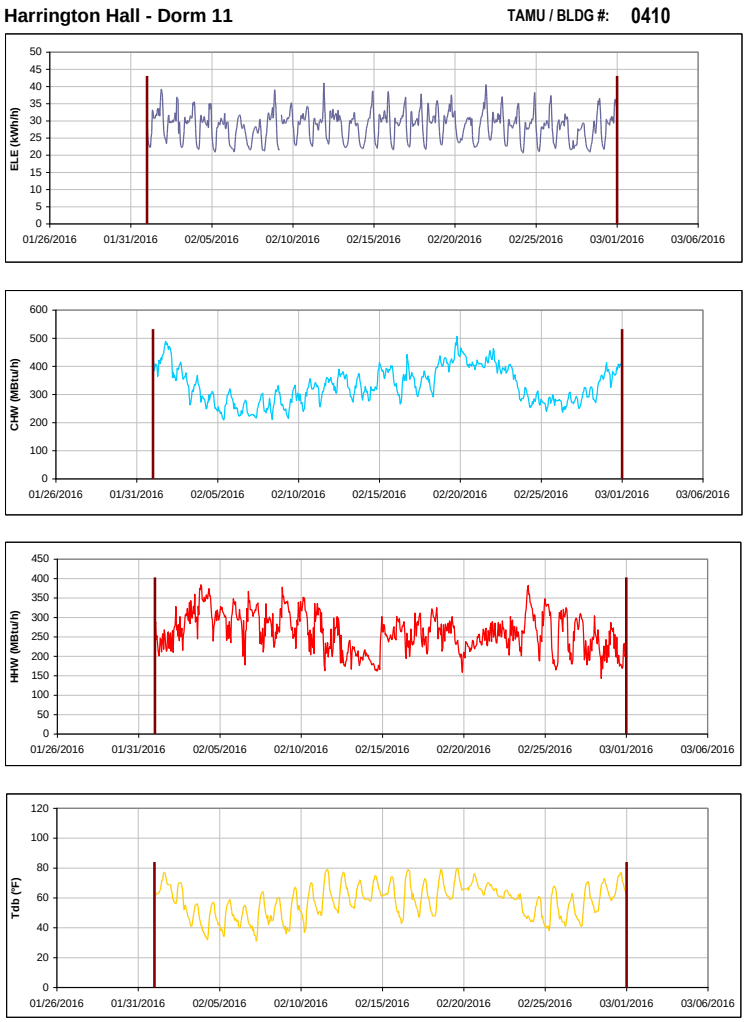


Figure III-34 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Harrington Hall - Dorm 11 during the Month of TSPlots and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

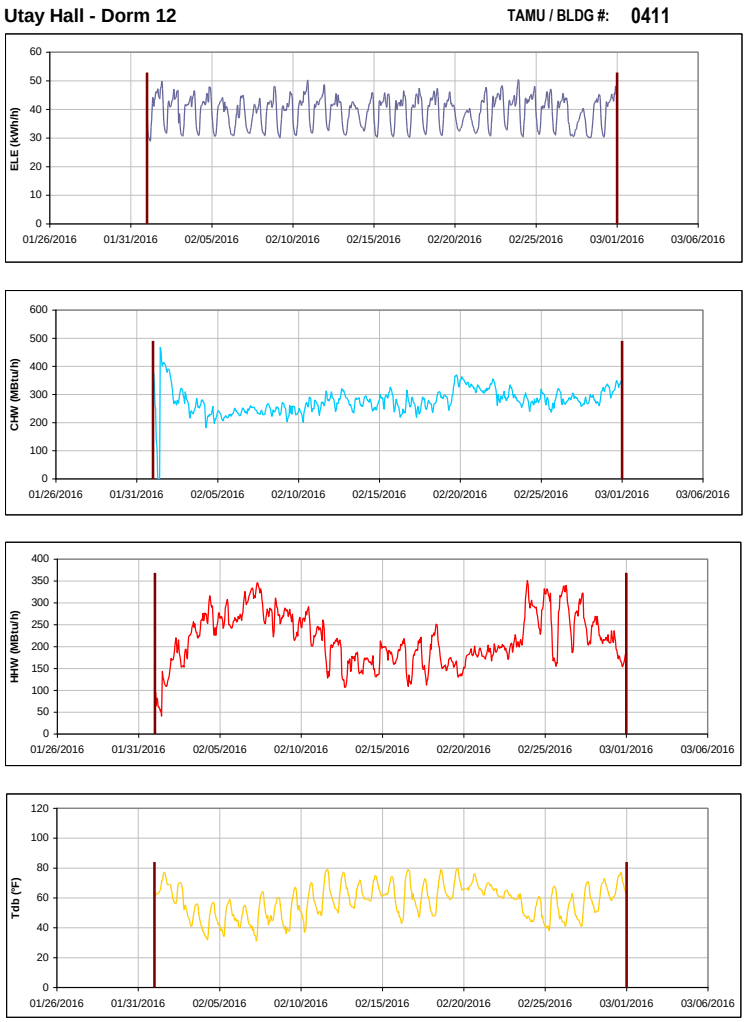


Figure III-35 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Utay Hall - Dorm 12 during the Month of TSPlots and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

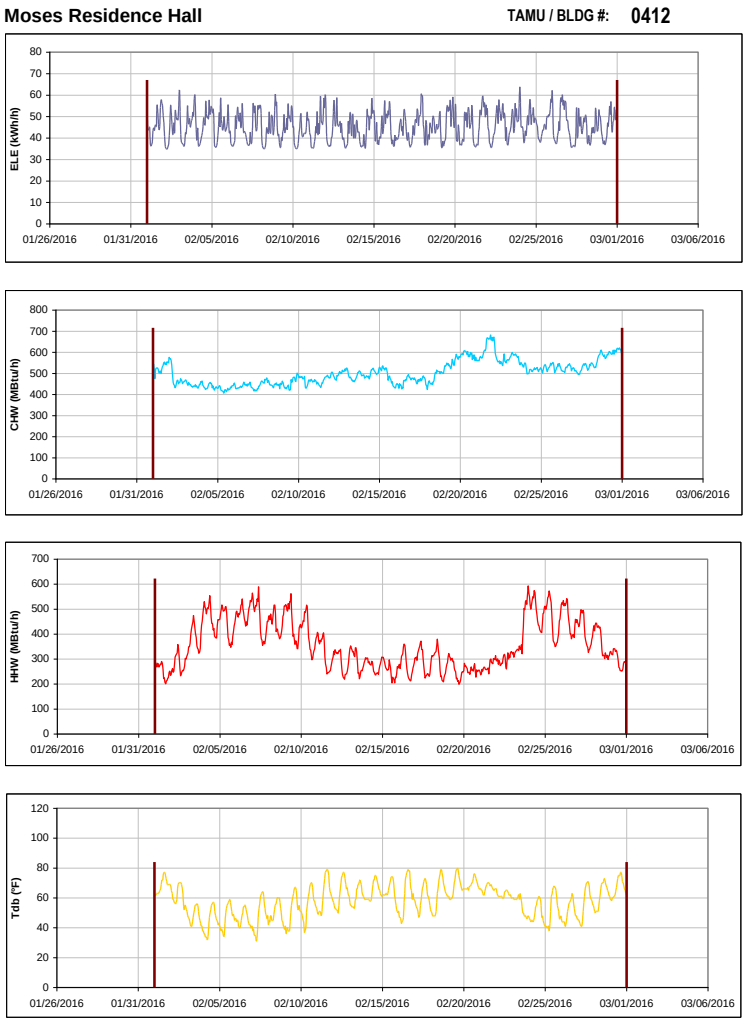


Figure III-36 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Moses Residence Hall during the Month of TSPlots and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

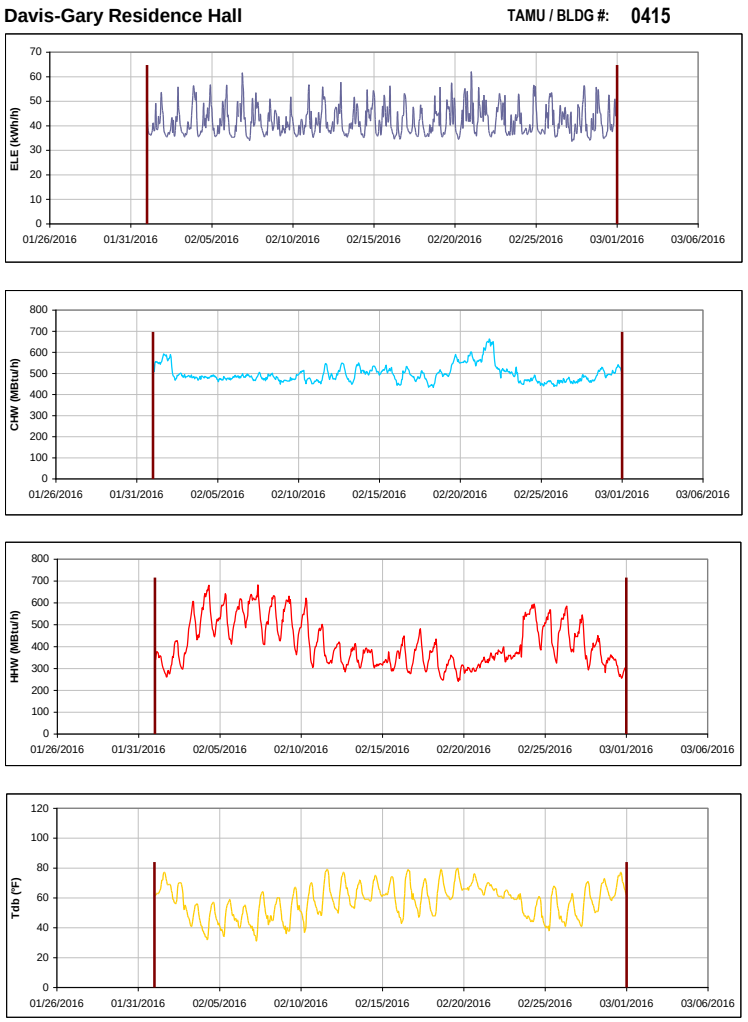


Figure III-37 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Davis-Gary Residence Hall during the Month of TSPlots and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

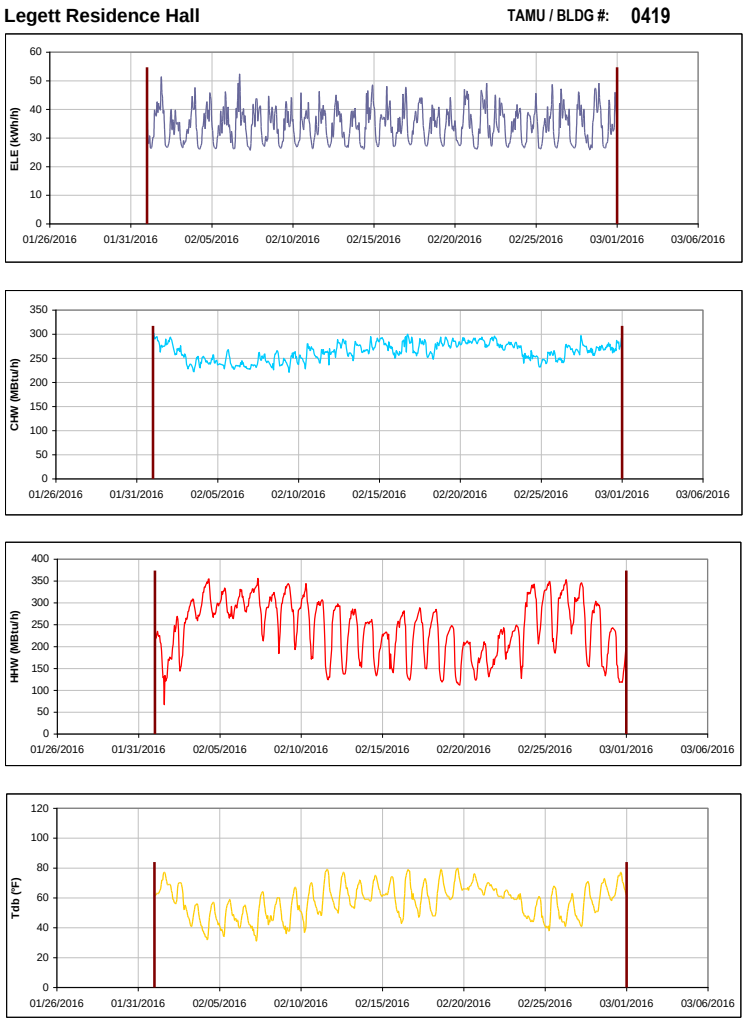


Figure III-38 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Legett Residence Hall during the Month of TSPlots and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

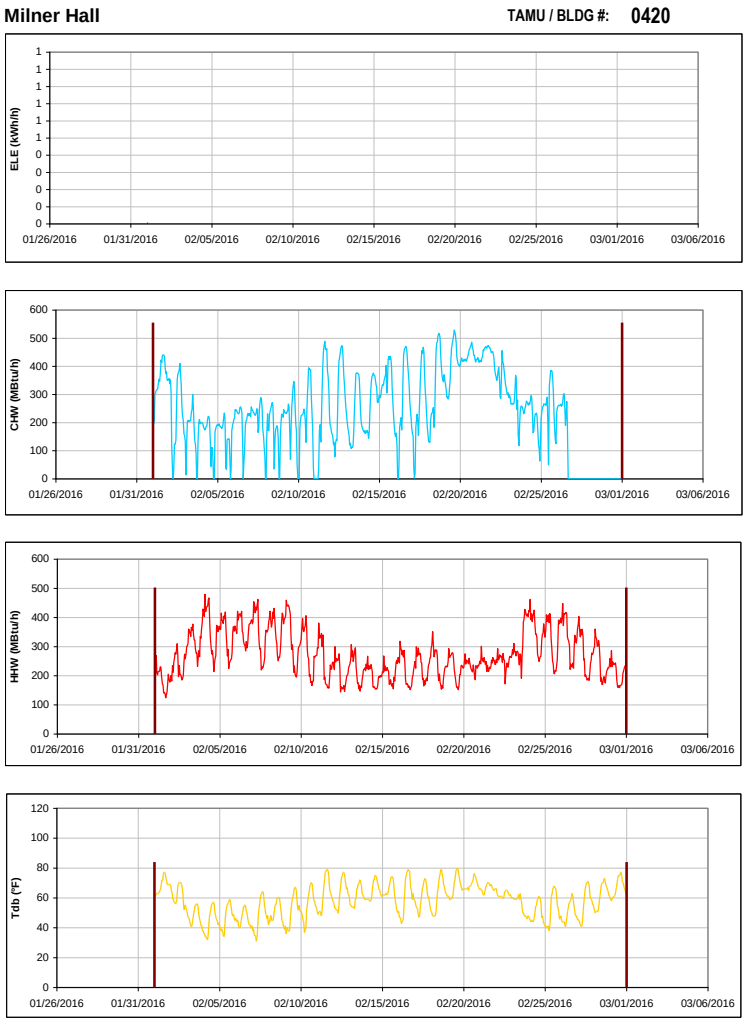


Figure III-39 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Milner Hall during the Month of TSPlots and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

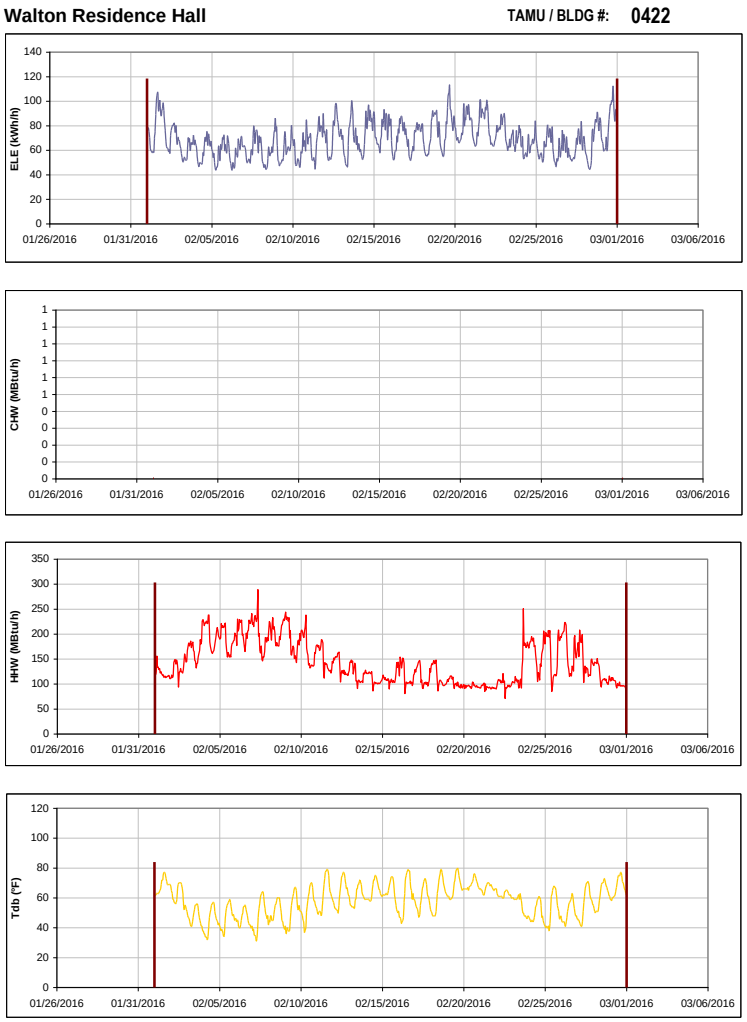


Figure III-40 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Walton Residence Hall during the Month of TSPlots and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

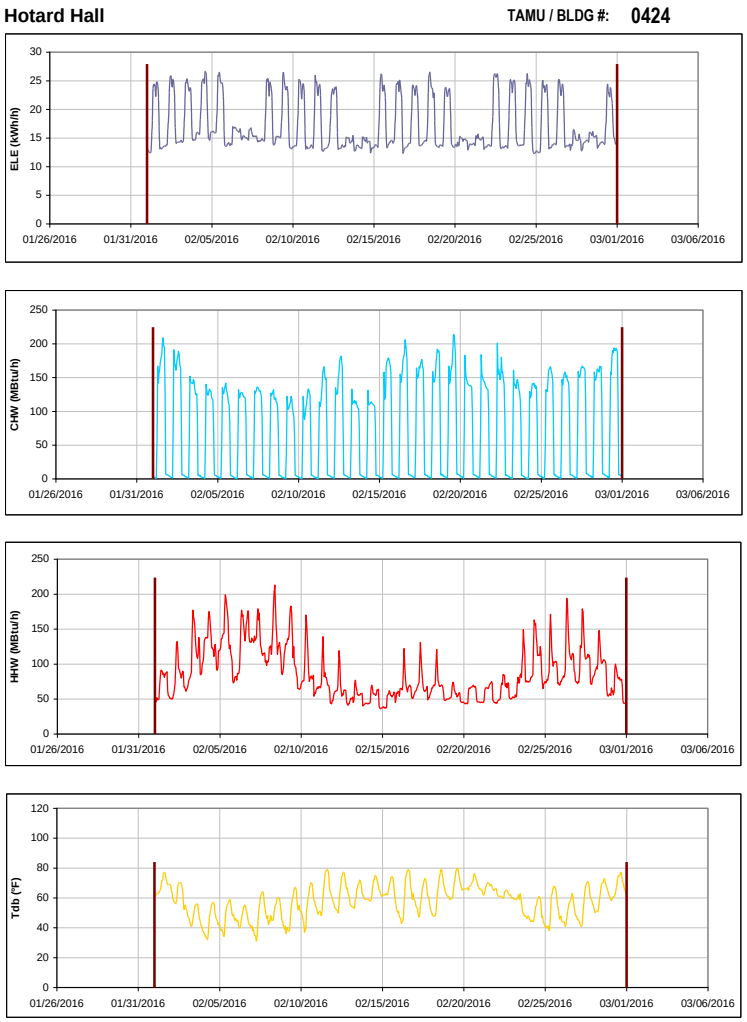


Figure III-41 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Hotard Hall during the Month of TSPlots and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

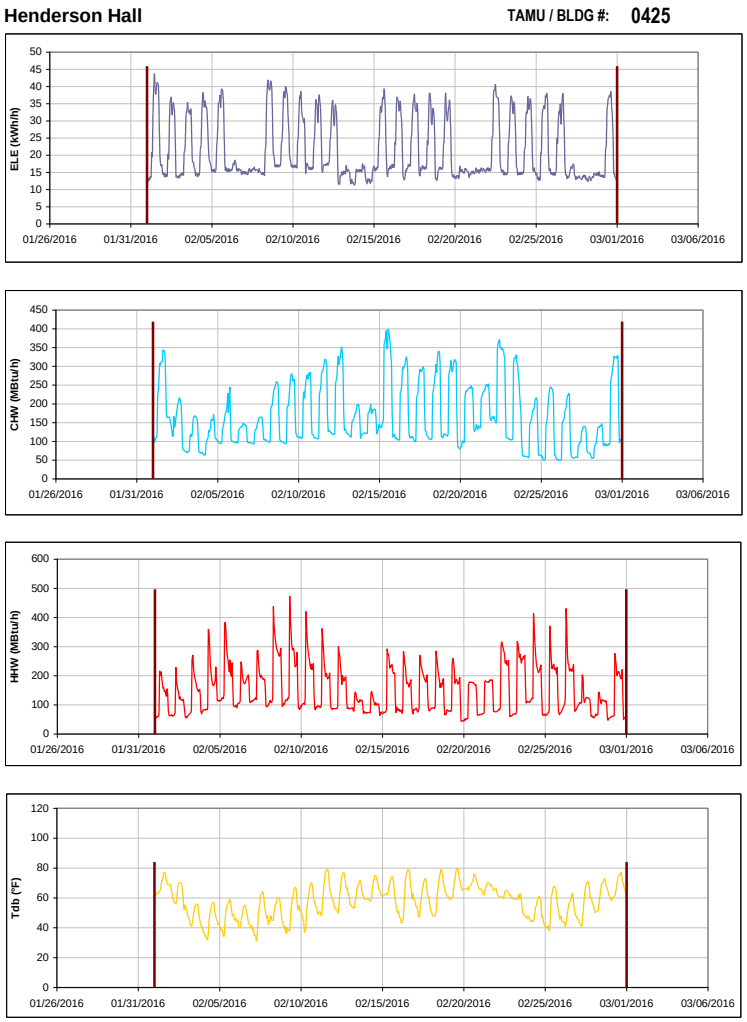


Figure III-42 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Henderson Hall during the Month of TSPlots and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

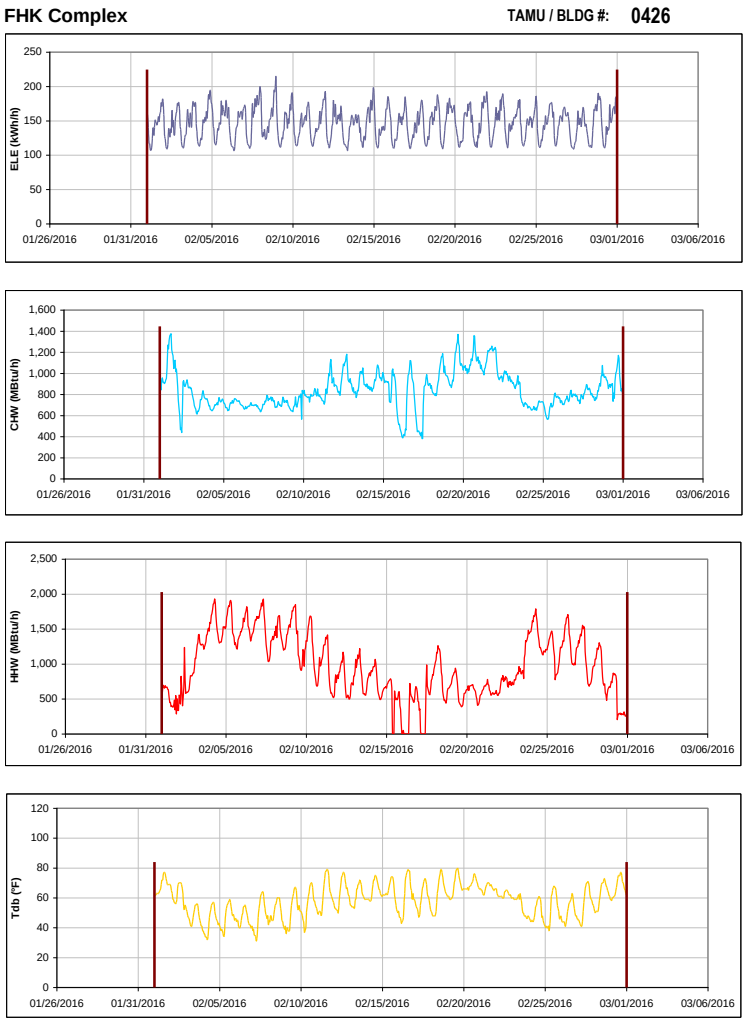


Figure III-43 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for FHK Complex during the Month of TSPlots and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

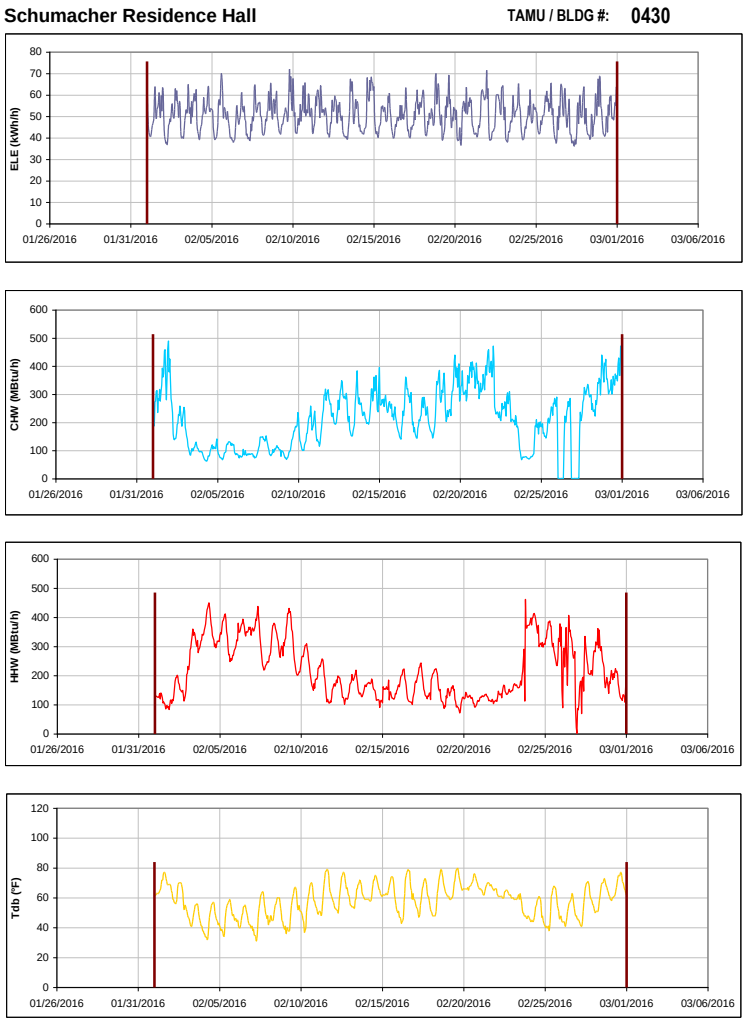


Figure III-44 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Schumacher Residence Hall during the Month of TSPlots and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

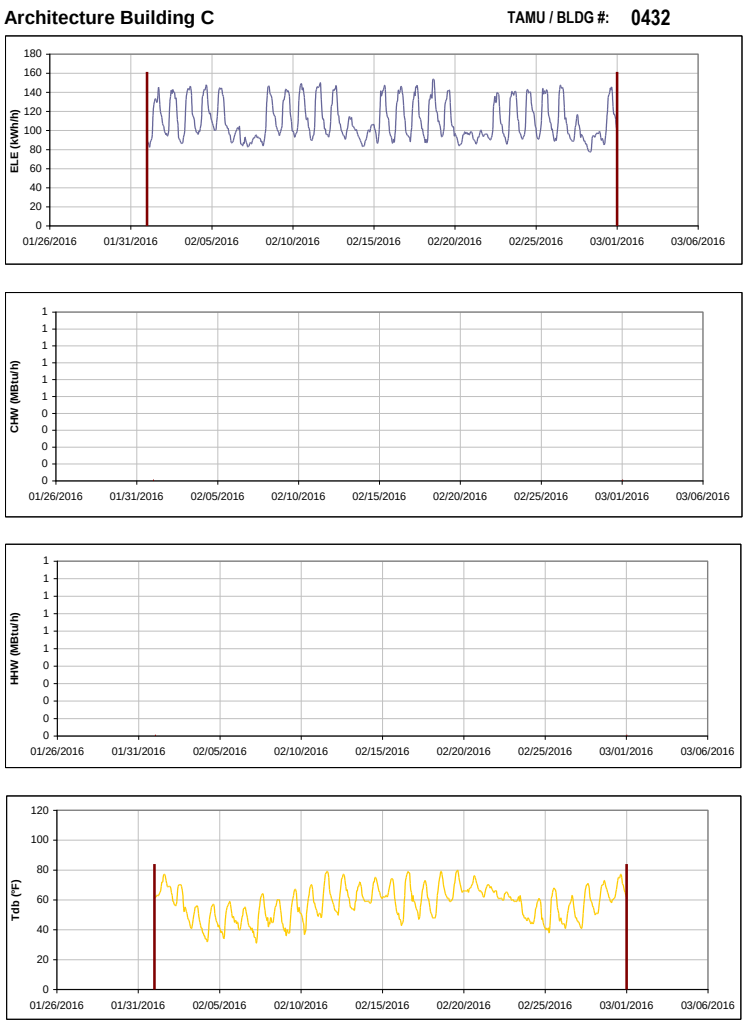


Figure III-45 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Architecture Building C during the Month of TSPlots and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

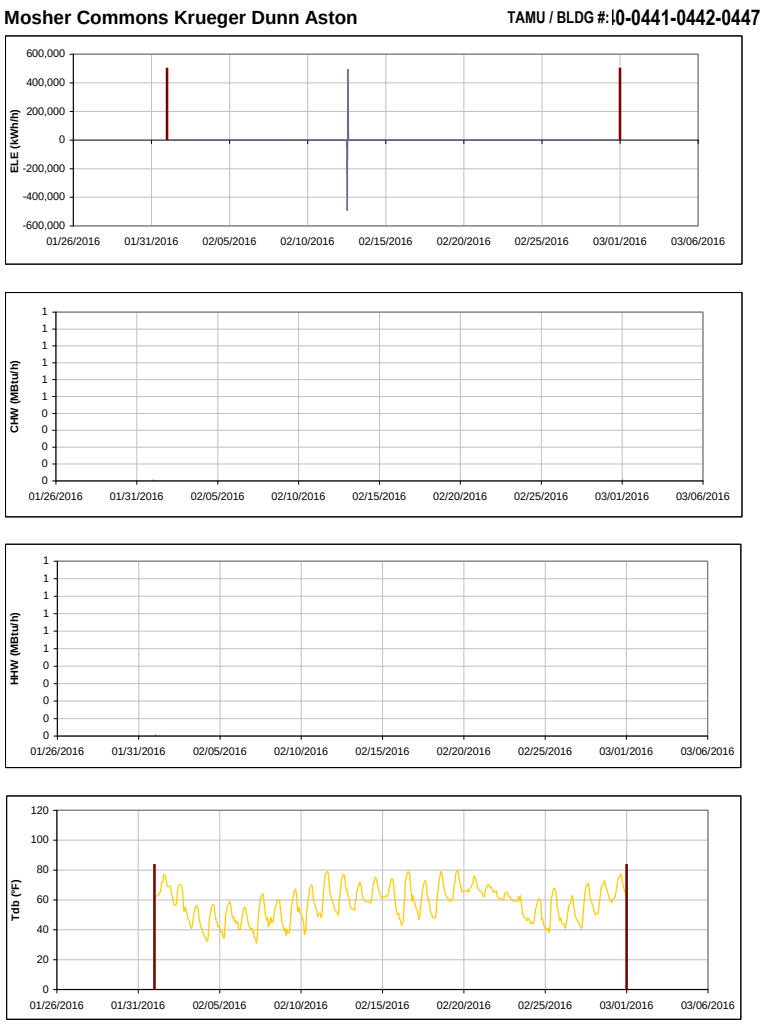


Figure III-46 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Mosher Commons Krueger Dunn Aston during the Month of TSPlots and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

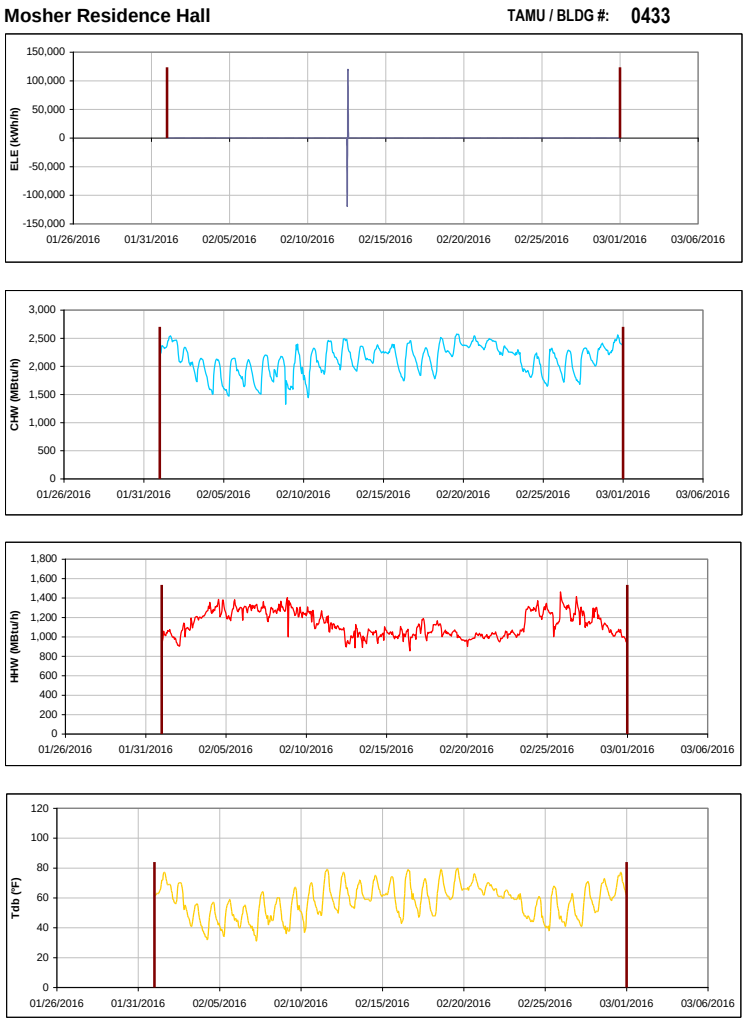


Figure III-47 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Mosher Residence Hall during the Month of TSPlots and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

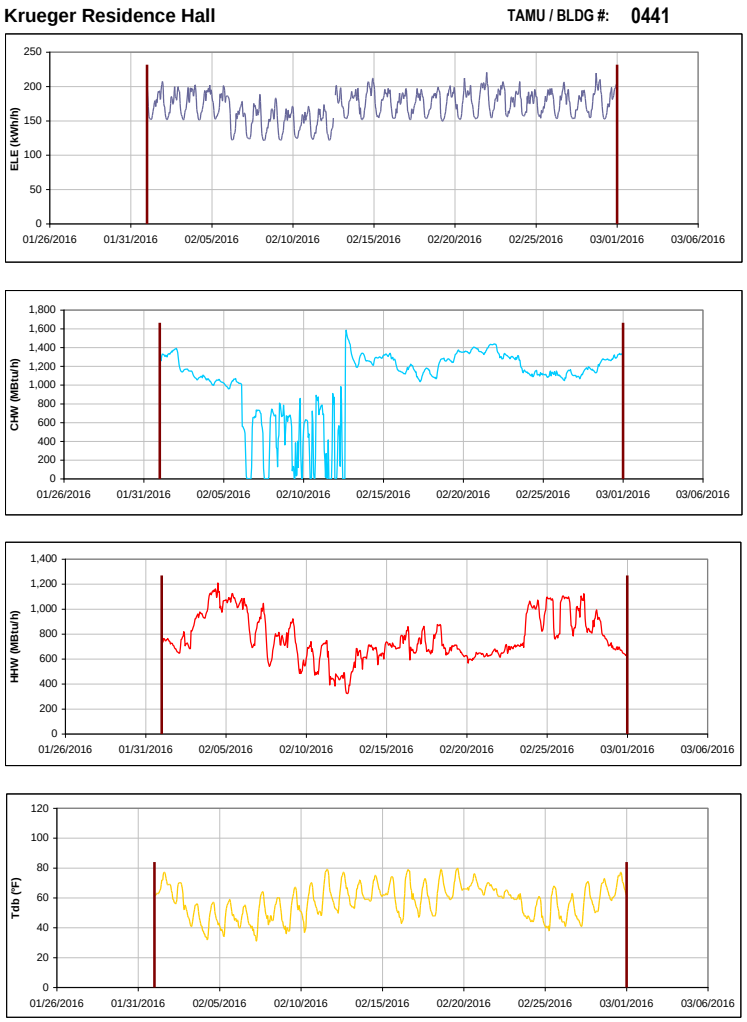


Figure III-48 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Krueger Residence Hall during the Month of TSPlots and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

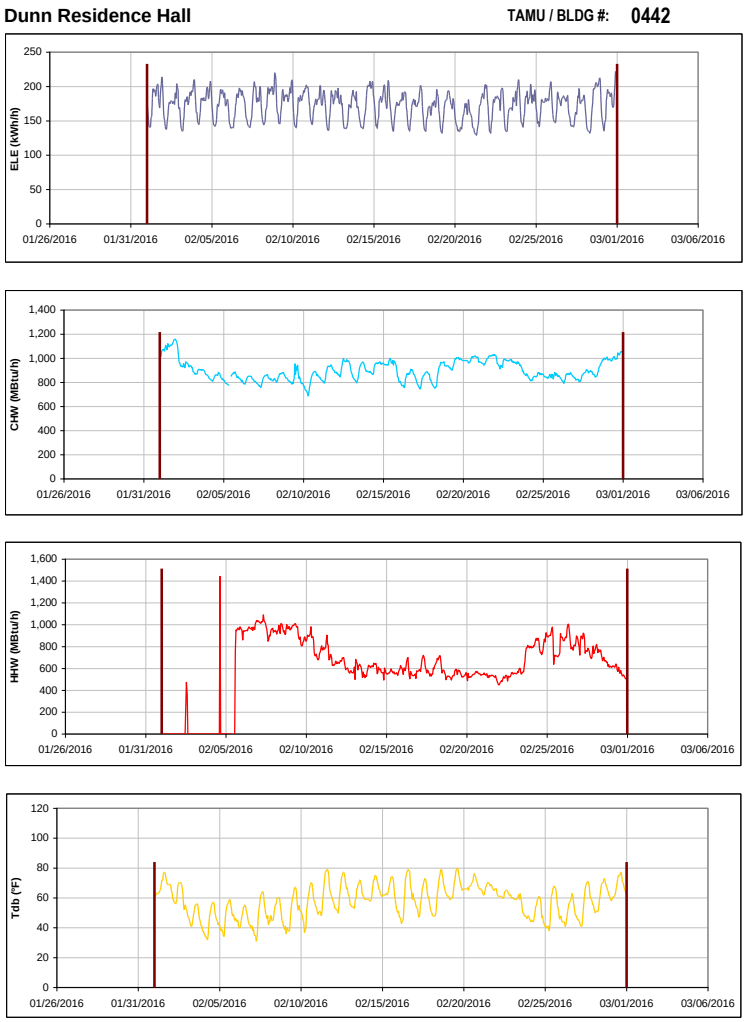


Figure III-49 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Dunn Residence Hall during the Month of TSPlots and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

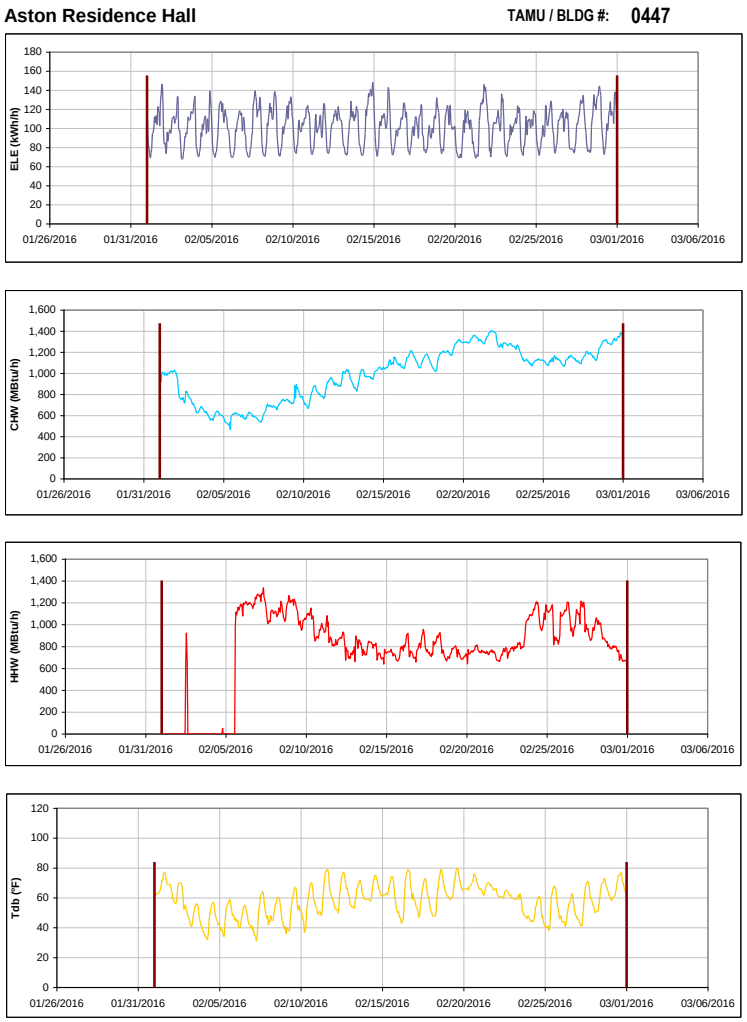


Figure III-50 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Aston Residence Hall during the Month of TSPlots and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

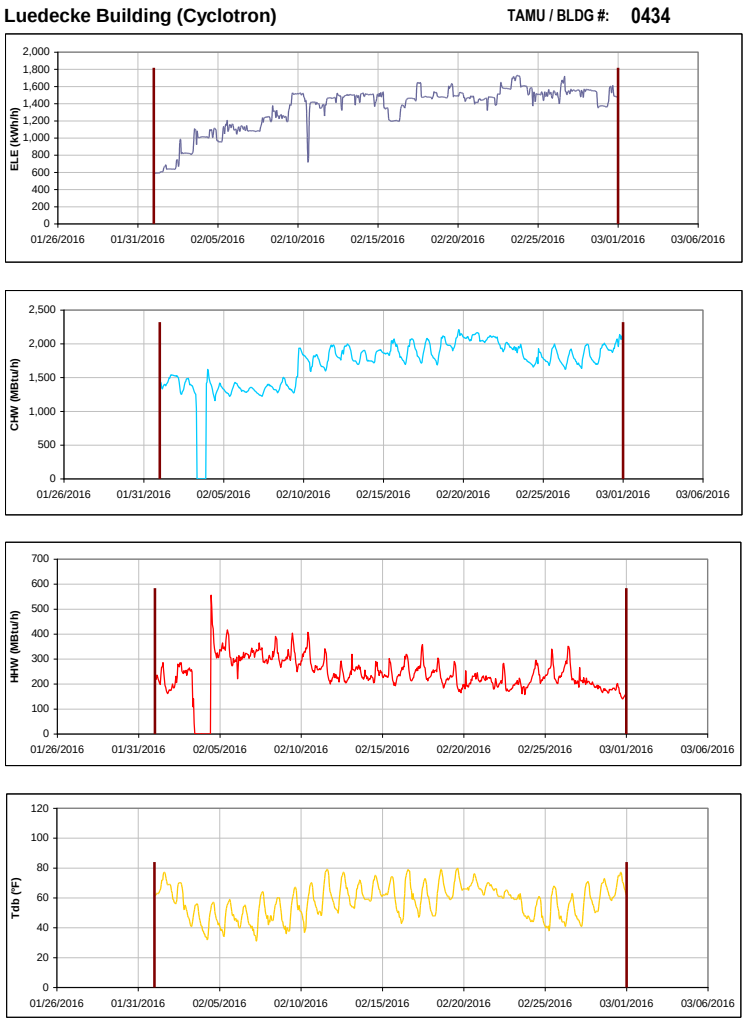


Figure III-51 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Luedecke Building (Cyclotron) during the Month of TSPlots and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

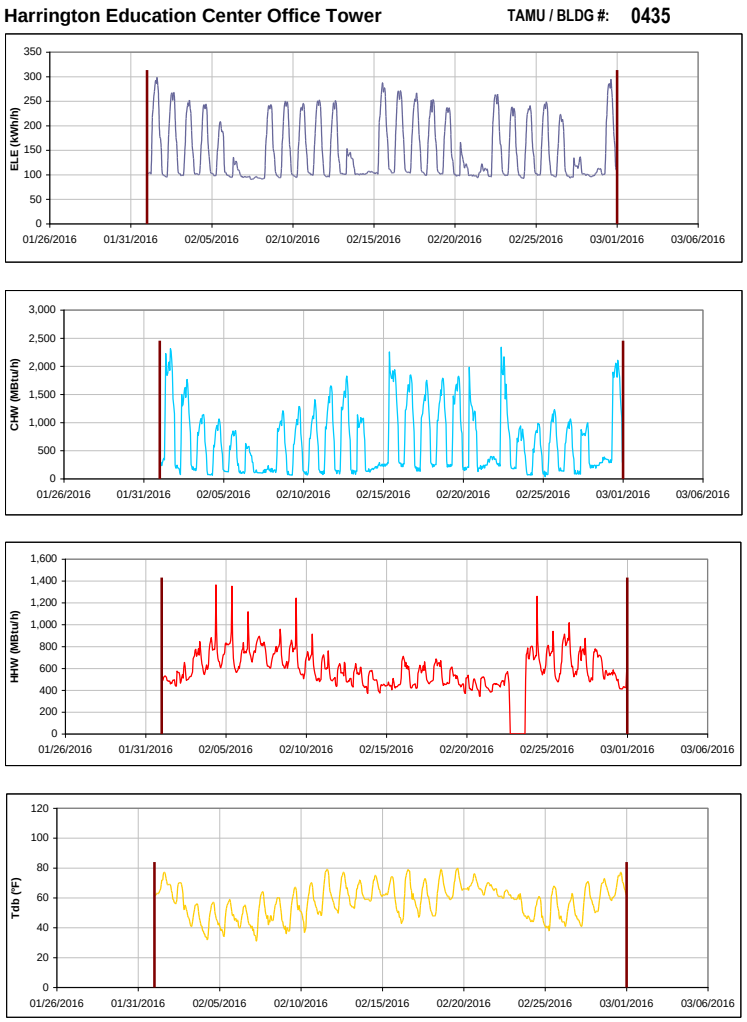


Figure III-52 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Harrington Education Center Office Tower during the Month of TSPlots and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

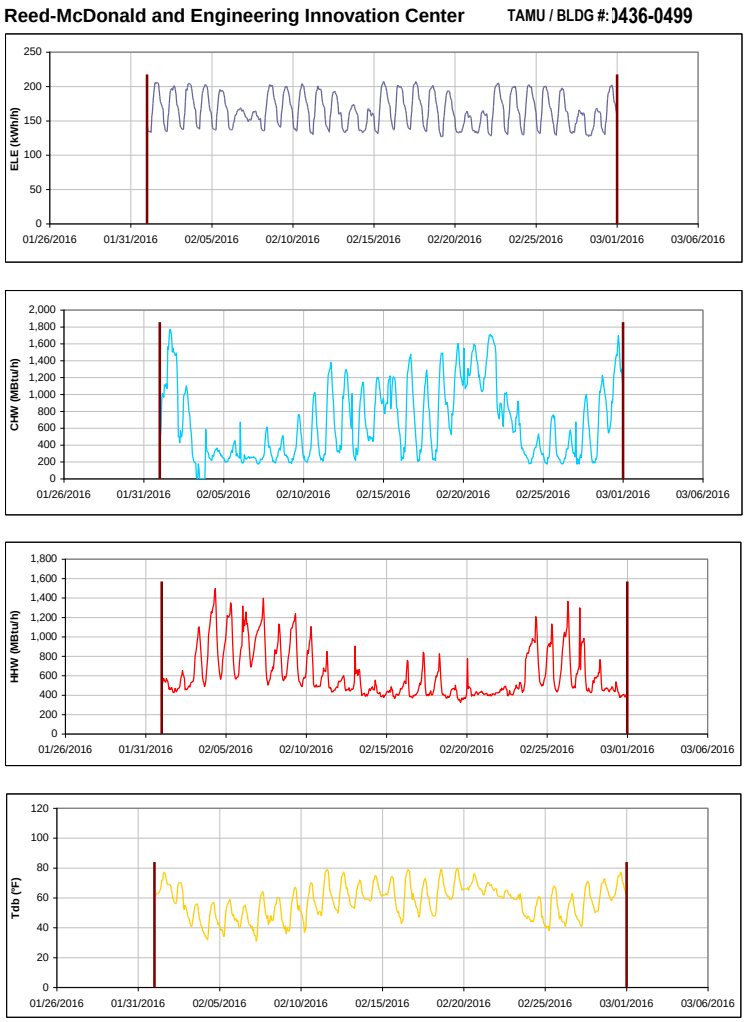


Figure III-53 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Reed-McDonald and Engineering Innovation Center during the Month of TSPlots and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

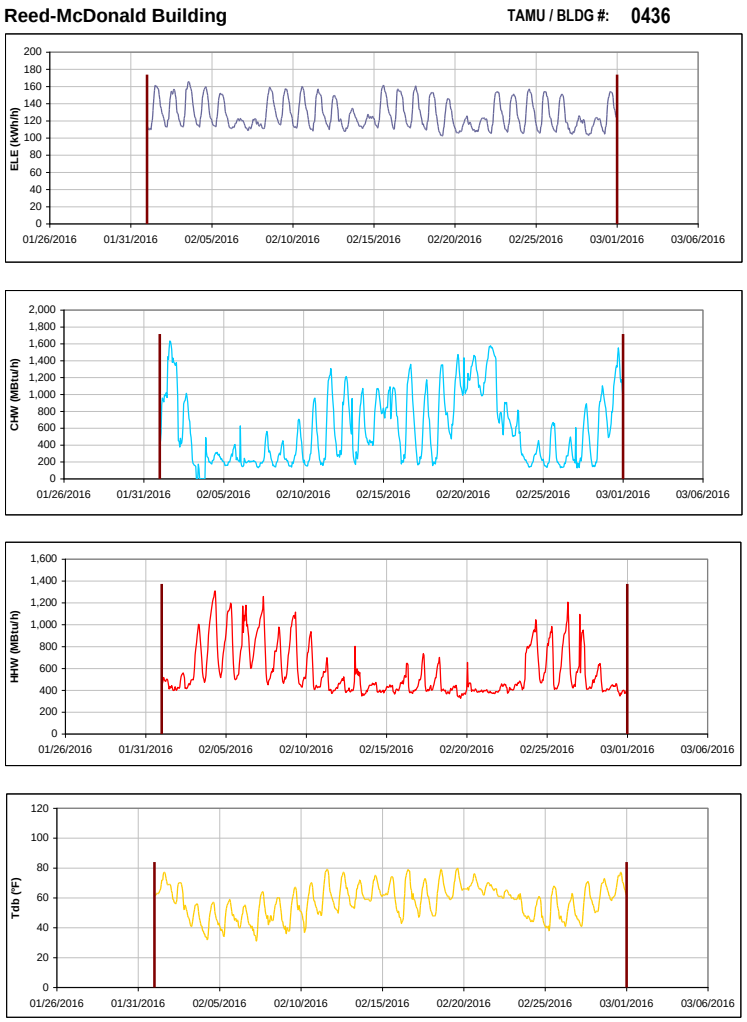


Figure III-54 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Reed-McDonald Building during the Month of TSPlots and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

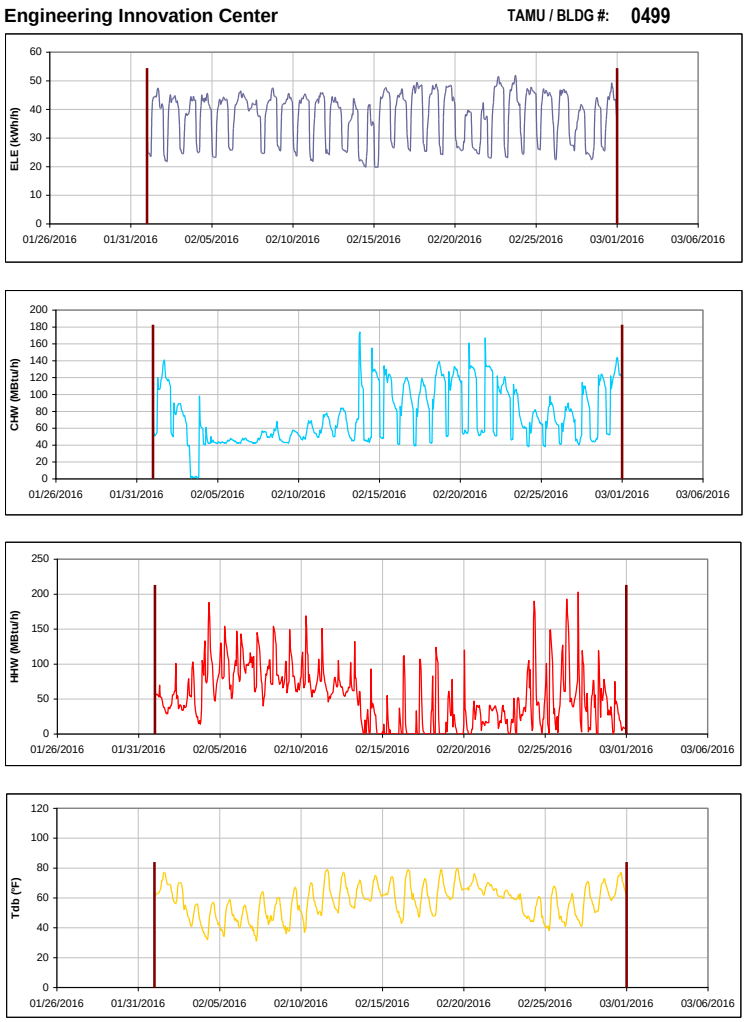


Figure III-55 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Engineering Innovation Center during the Month of TSPlots and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

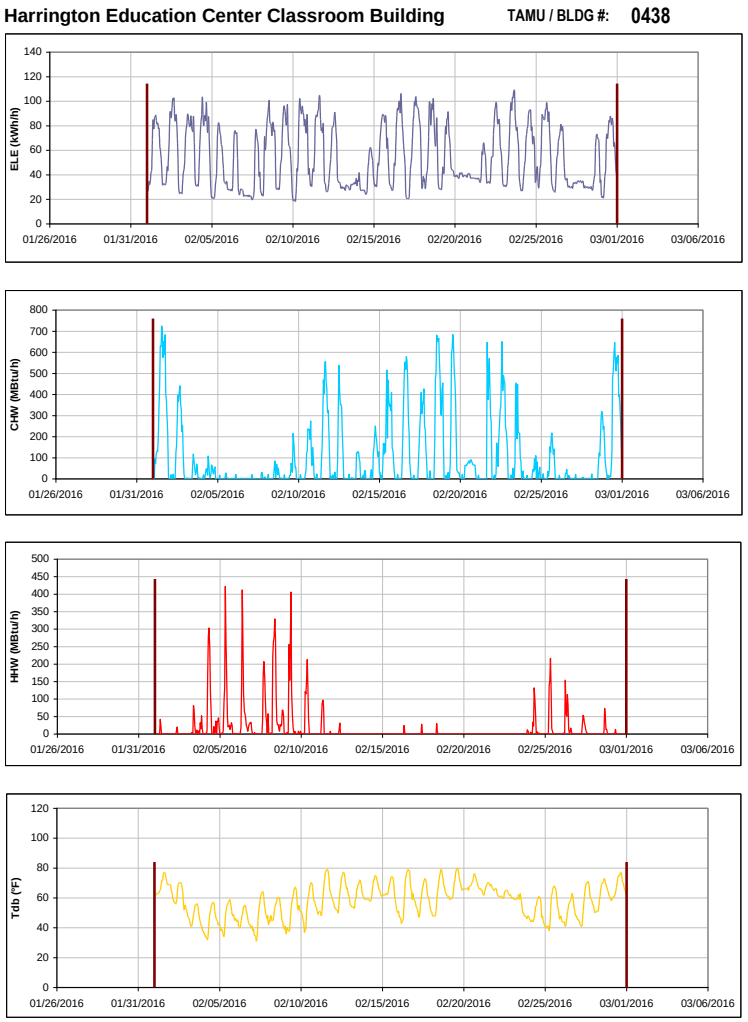


Figure III-56 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Harrington Education Center Classroom Building during the Month of TSPlots and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

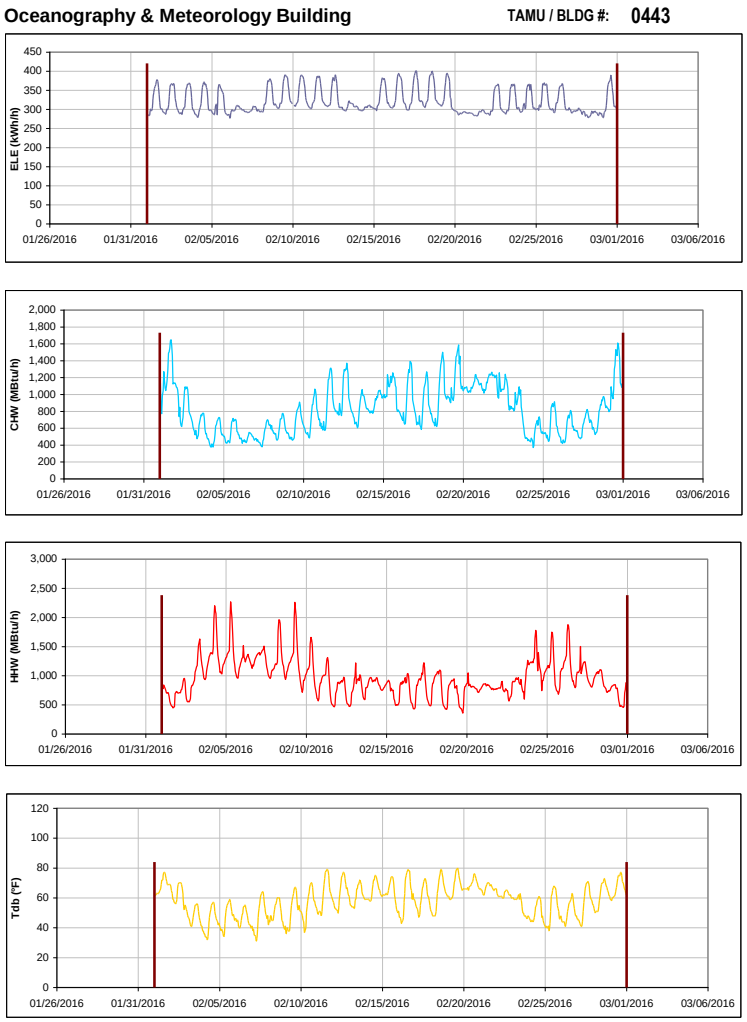


Figure III-57 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Oceanography & Meteorology Building during the Month of TSPlots and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

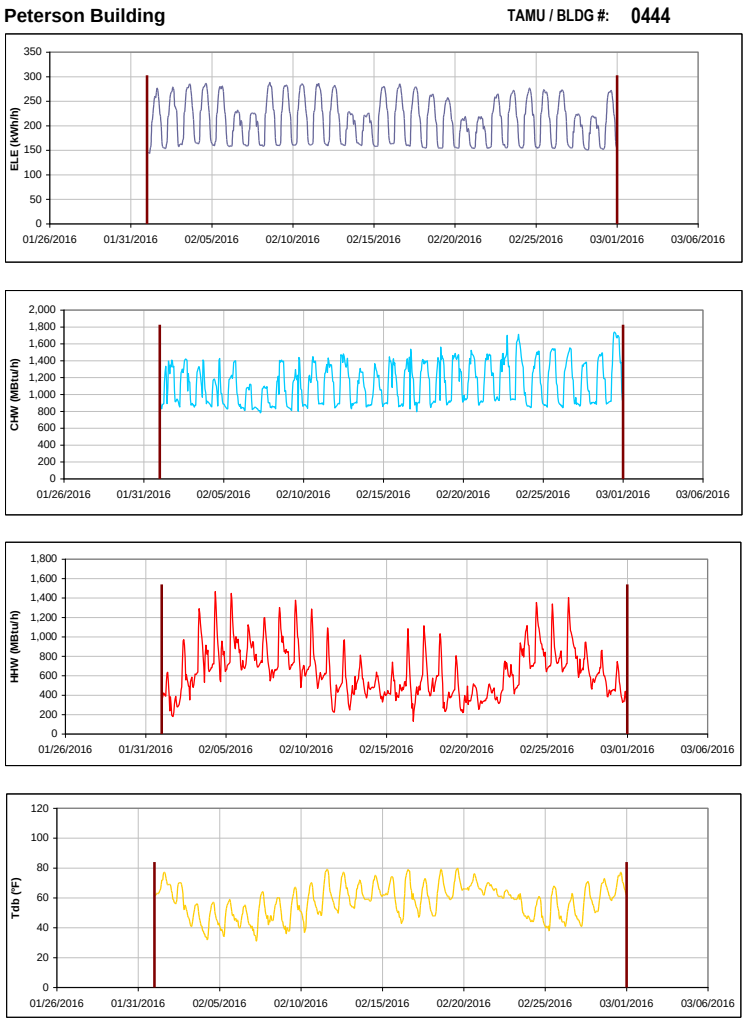


Figure III-58 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Peterson Building during the Month of TSPlots and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

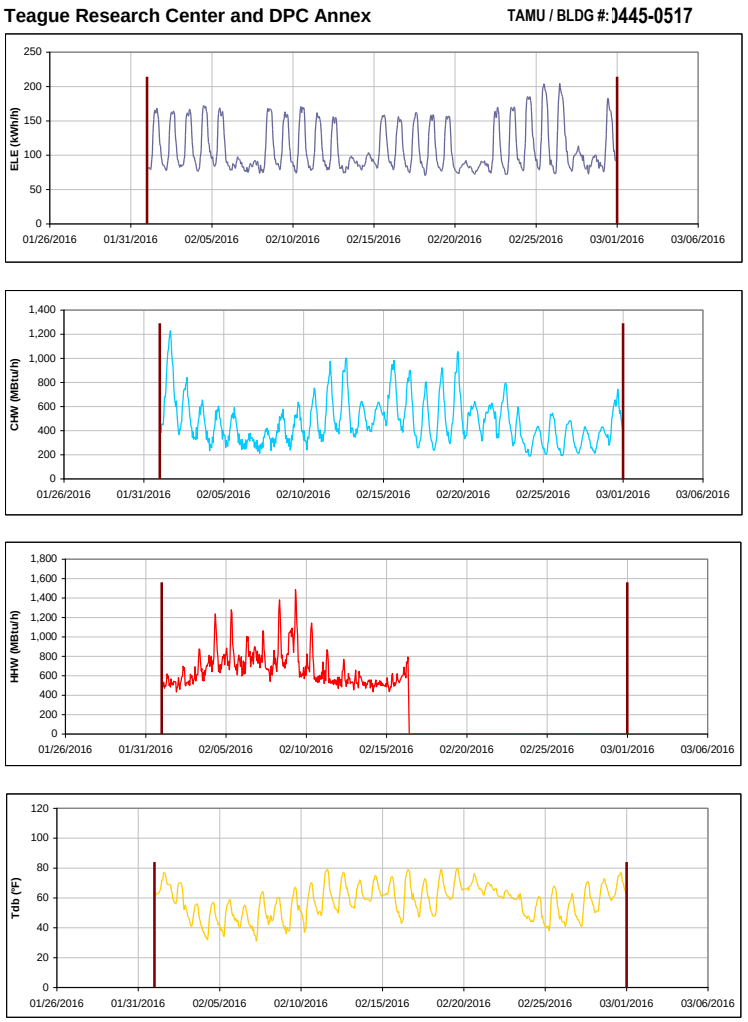


Figure III-59 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Teague Research Center and DPC Annex during the Month of TSPlots and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

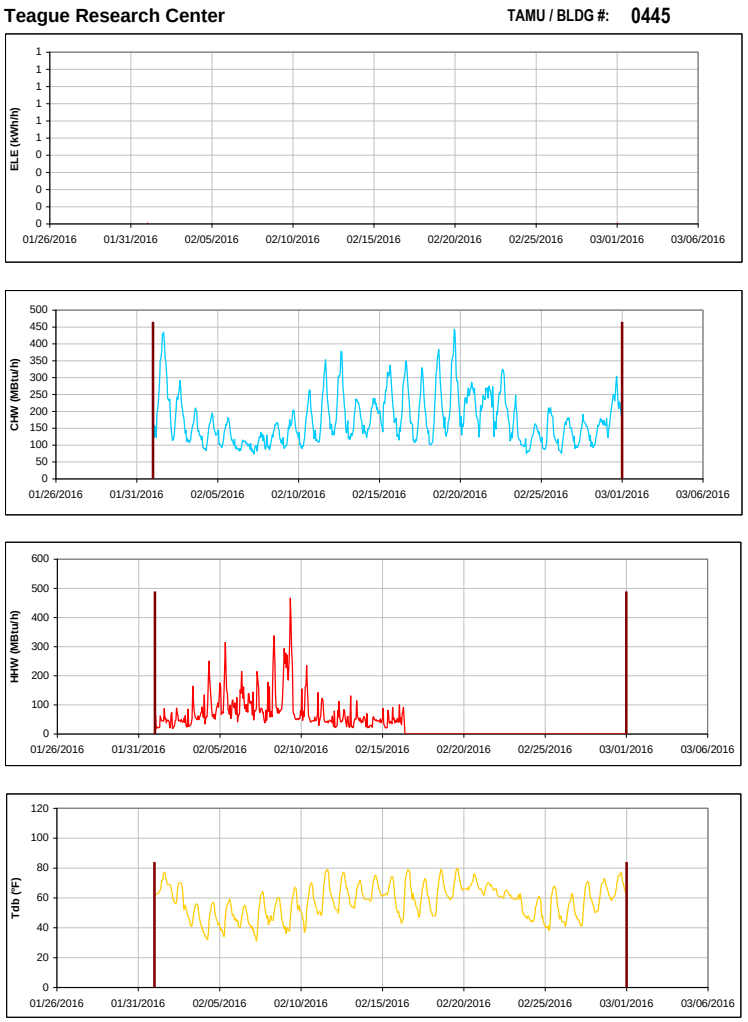


Figure III-60 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Teague Research Center during the Month of TSPlots and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

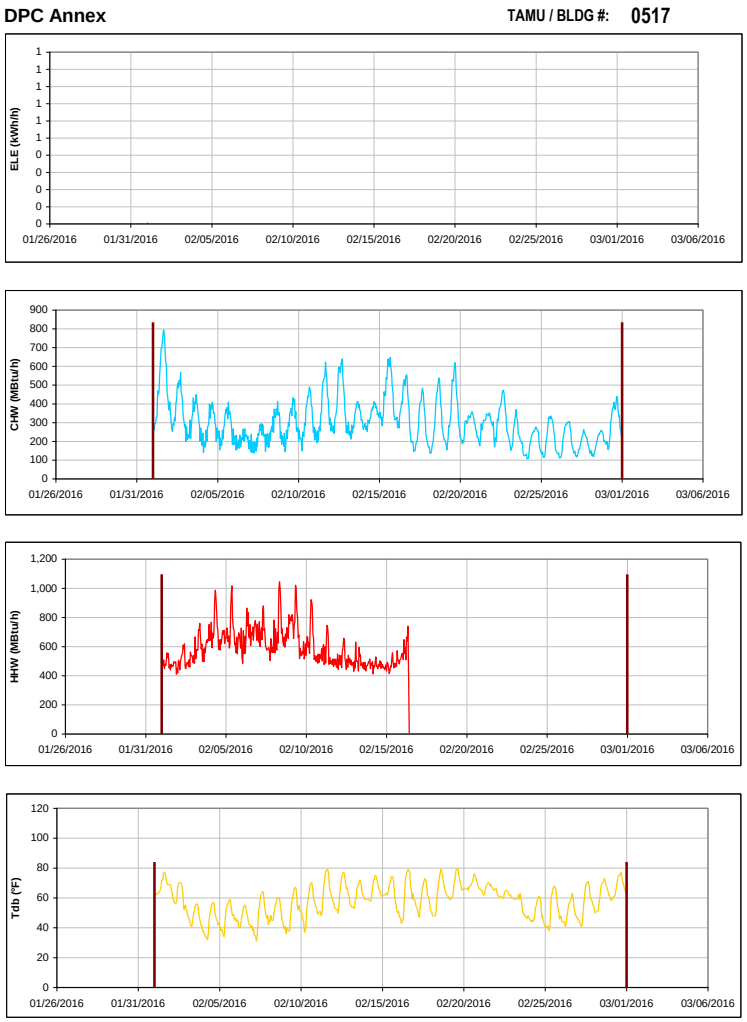


Figure III-61 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for DPC Annex during the Month of TSPlots and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

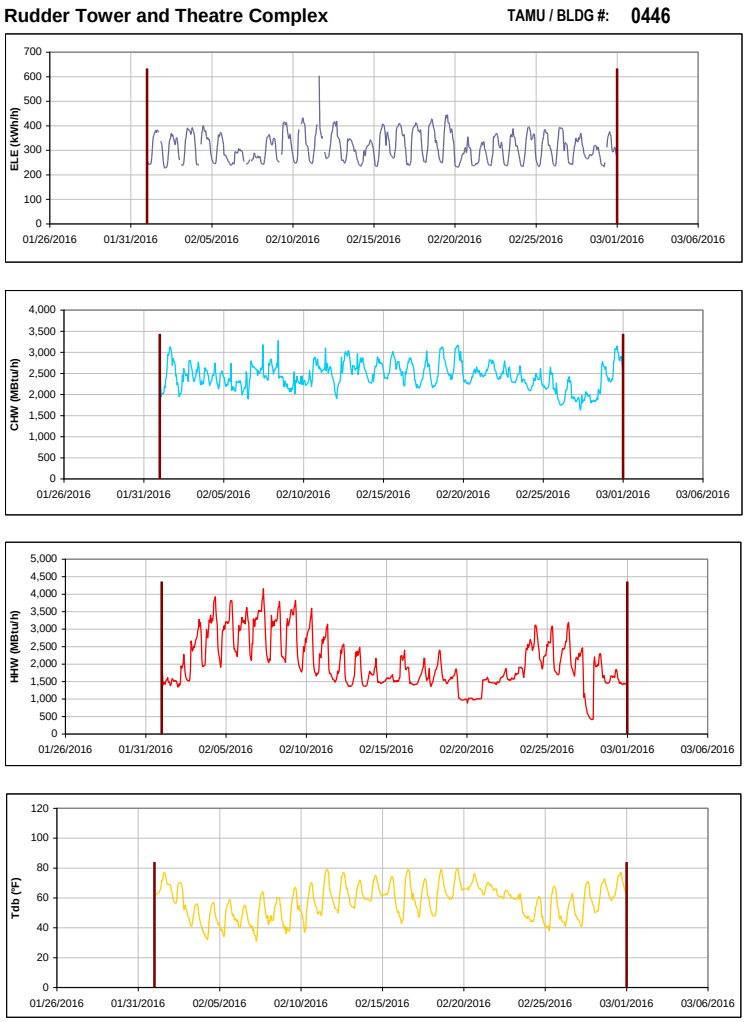


Figure III-62 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Rudder Tower and Theatre Complex during the Month of TSPlots and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

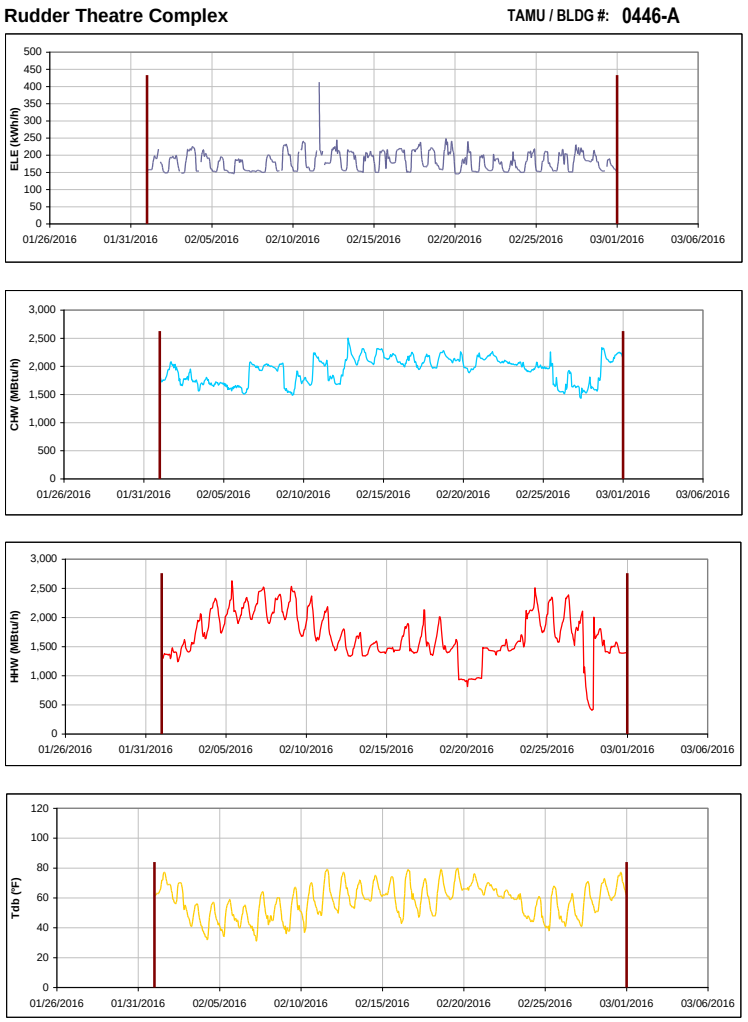


Figure III-63 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Rudder Theatre Complex during the Month of TSPlots and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

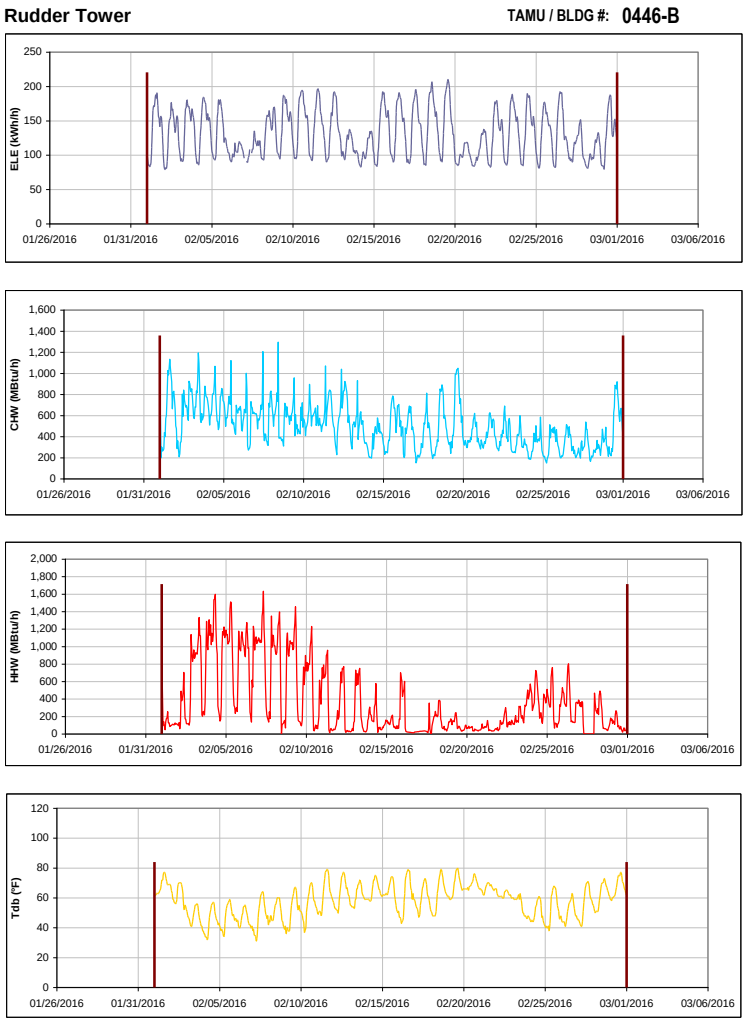


Figure III-64 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Rudder Tower during the Month of TSPlots and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

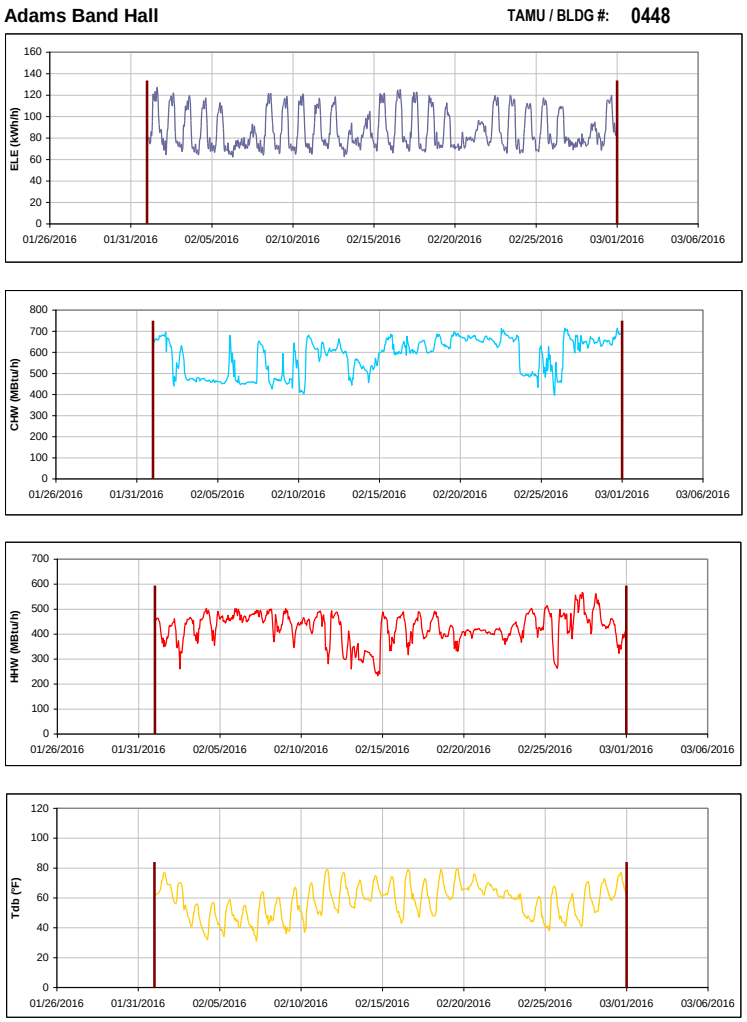


Figure III-65 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Adams Band Hall during the Month of TSPlots and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

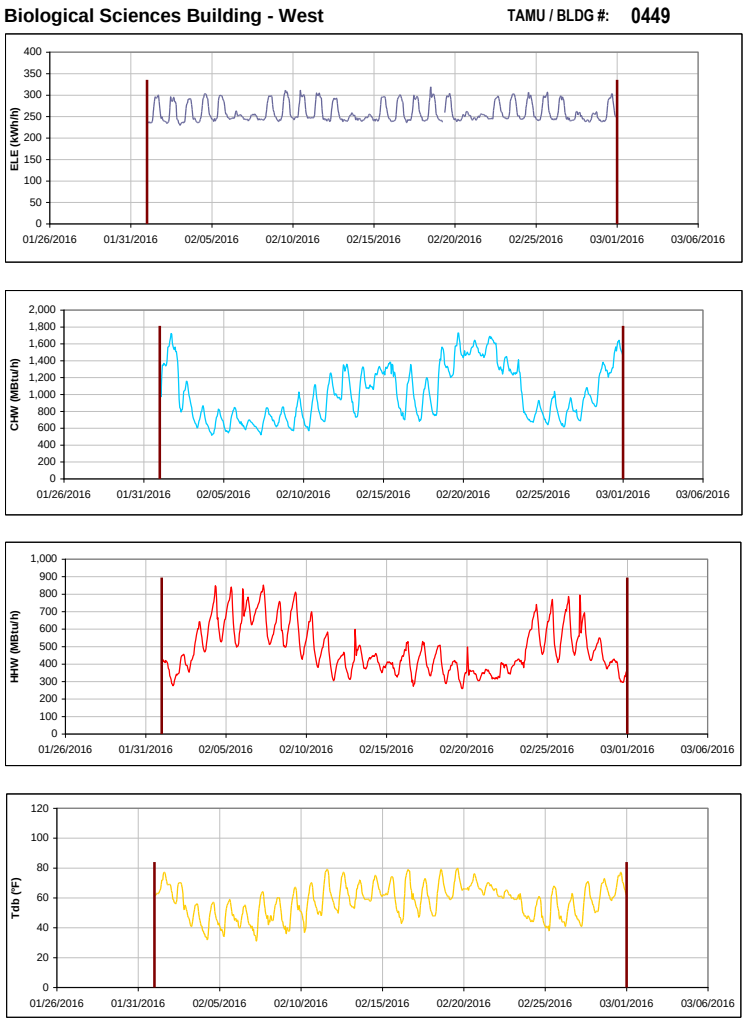


Figure III-66 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Biological Sciences Building - West during the Month of TSPlots and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

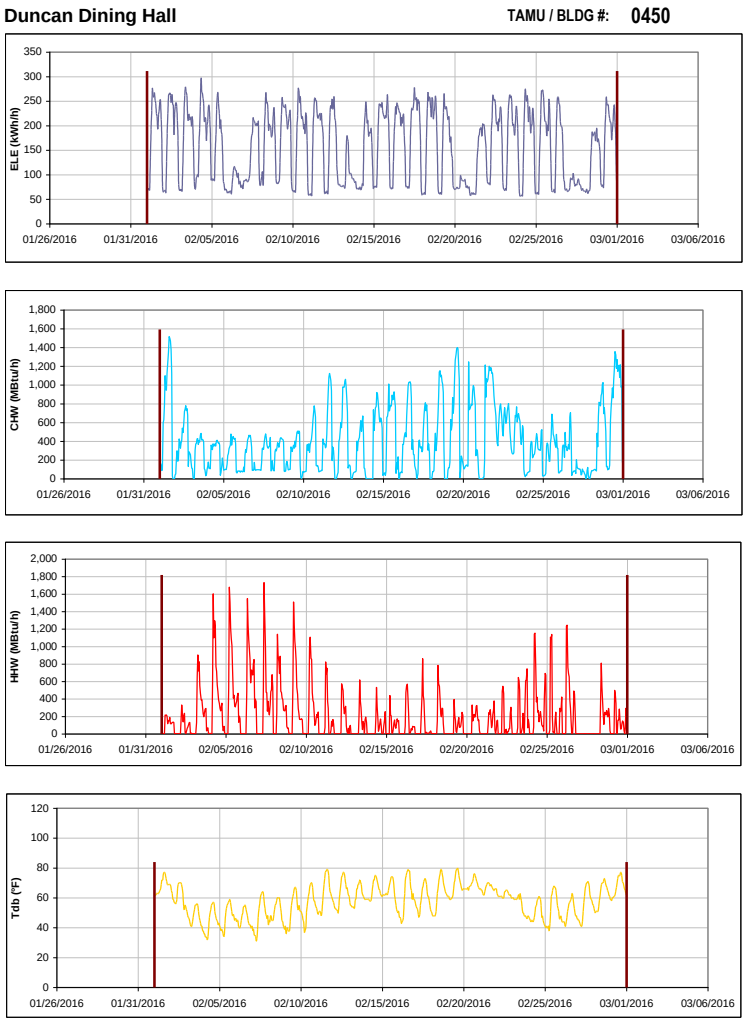


Figure III-67 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Duncan Dining Hall during the Month of TSPlots and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

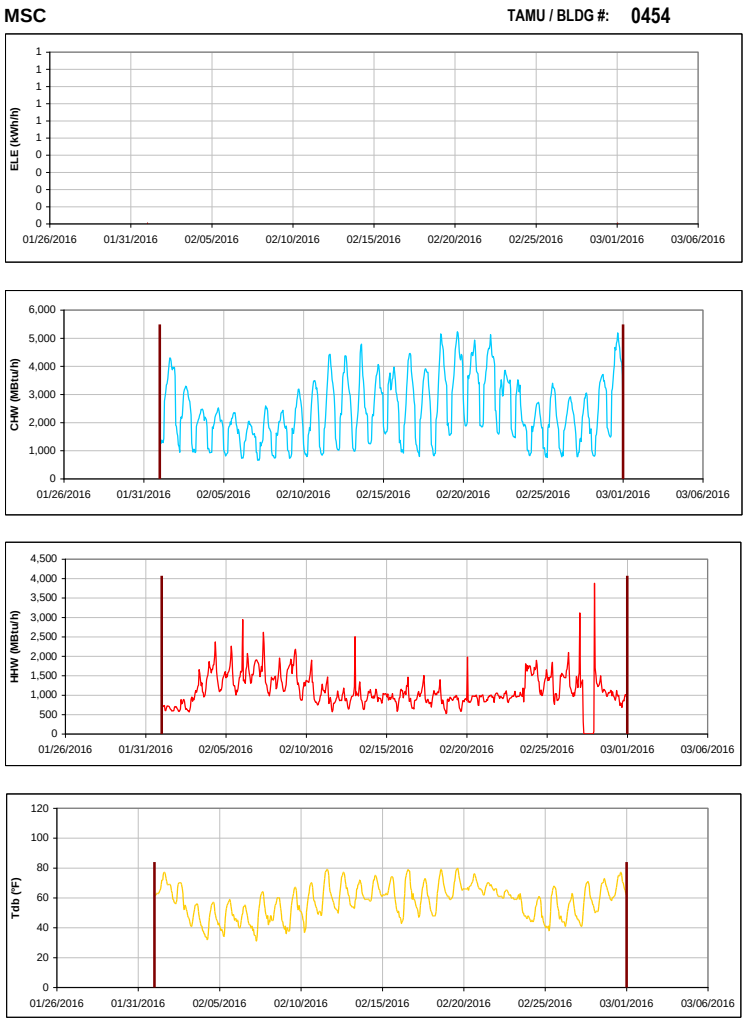


Figure III-68 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for MSC during the Month of TSPlots and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

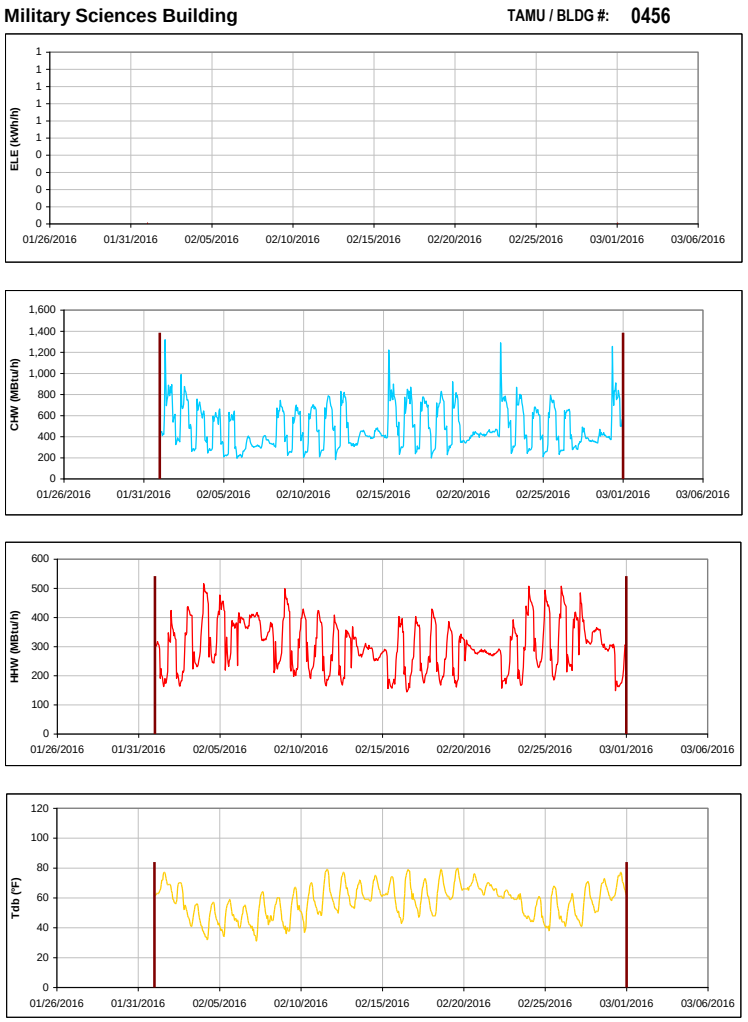


Figure III-69 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Military Sciences Building during the Month of TSPlots and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

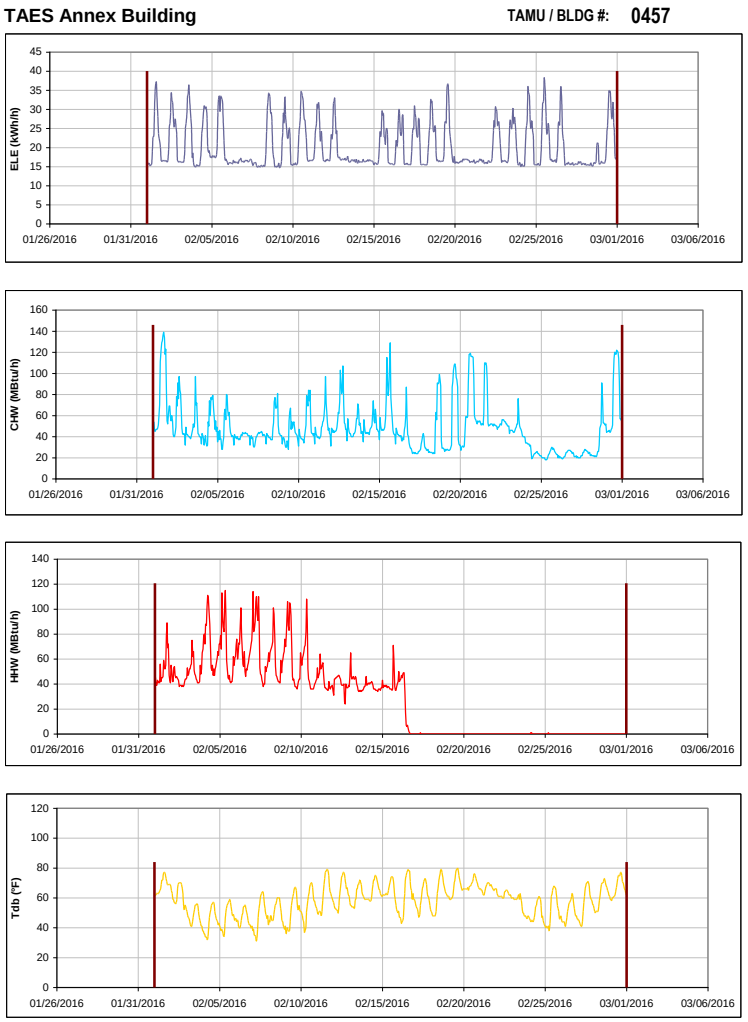


Figure III-70 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for TAES Annex Building during the Month of TSPlots and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

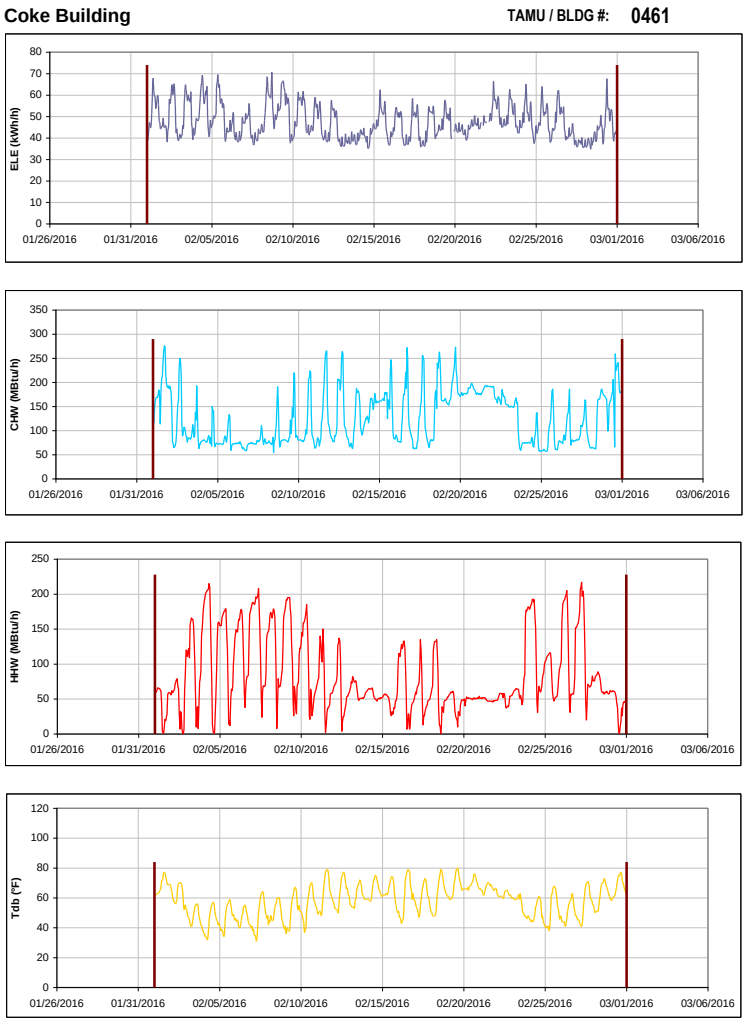


Figure III-71 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Coke Building during the Month of TSPlots and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

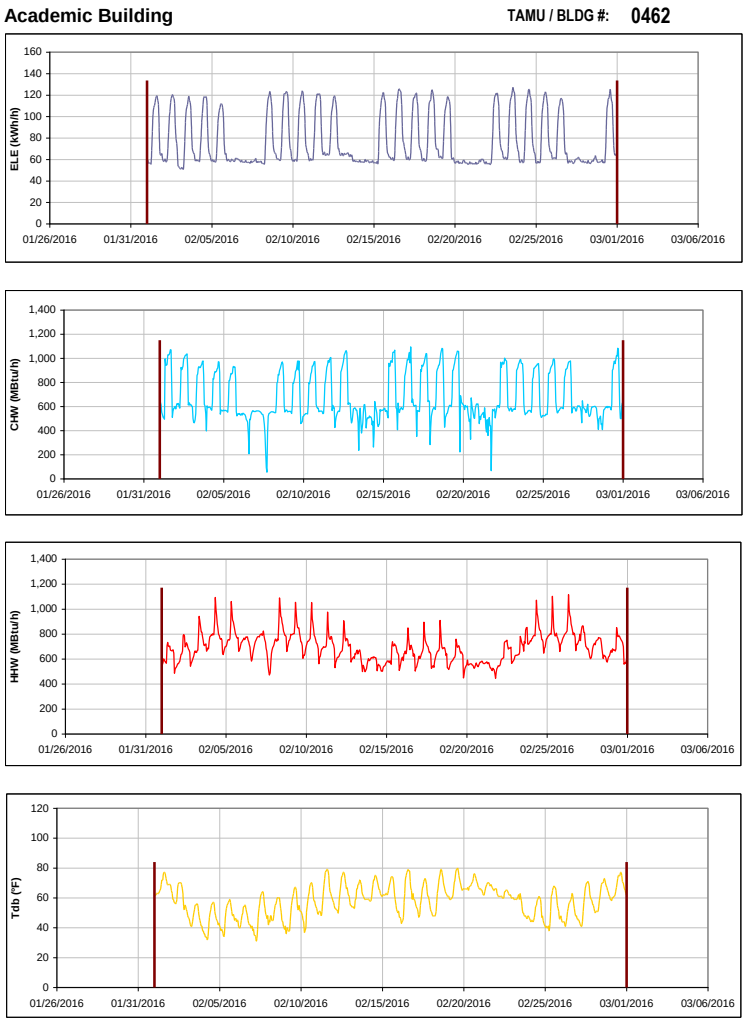


Figure III-72 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Academic Building during the Month of TSPlots and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

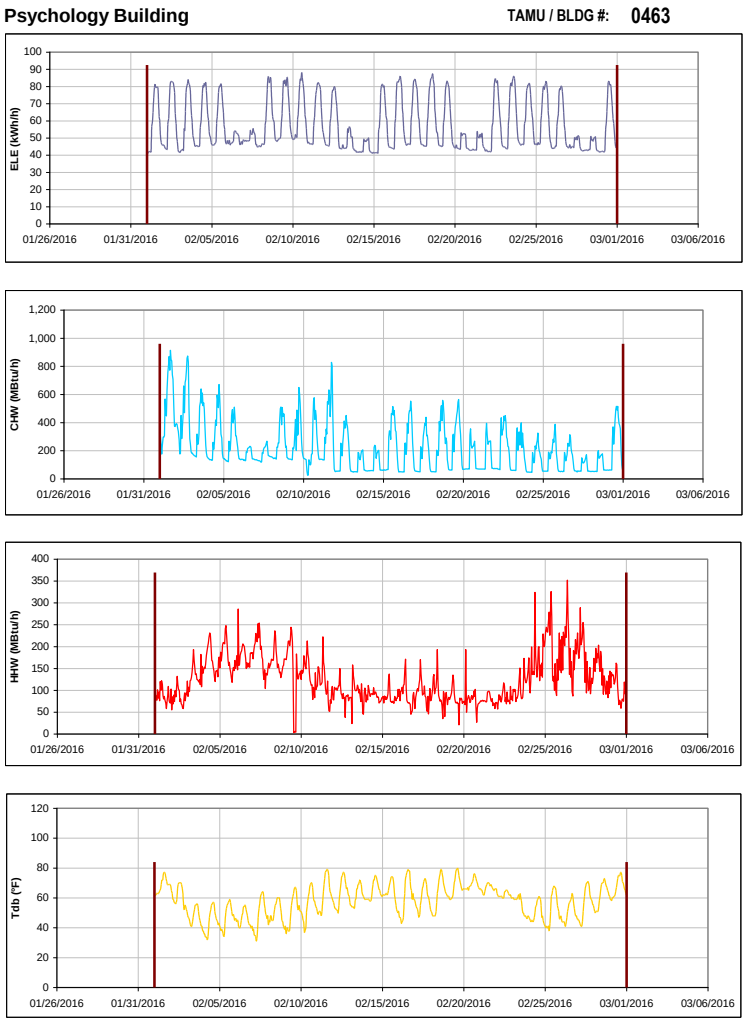


Figure III-73 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Psychology Building during the Month of TSPlots and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

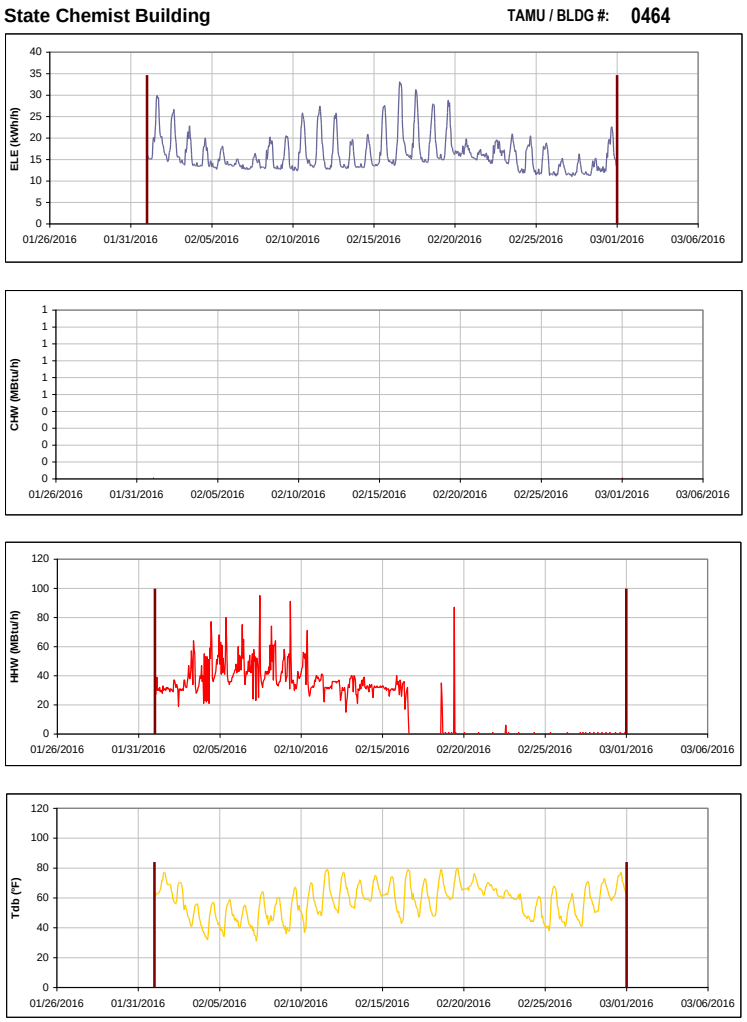


Figure III-74 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for State Chemist Building during the Month of TSPlots and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

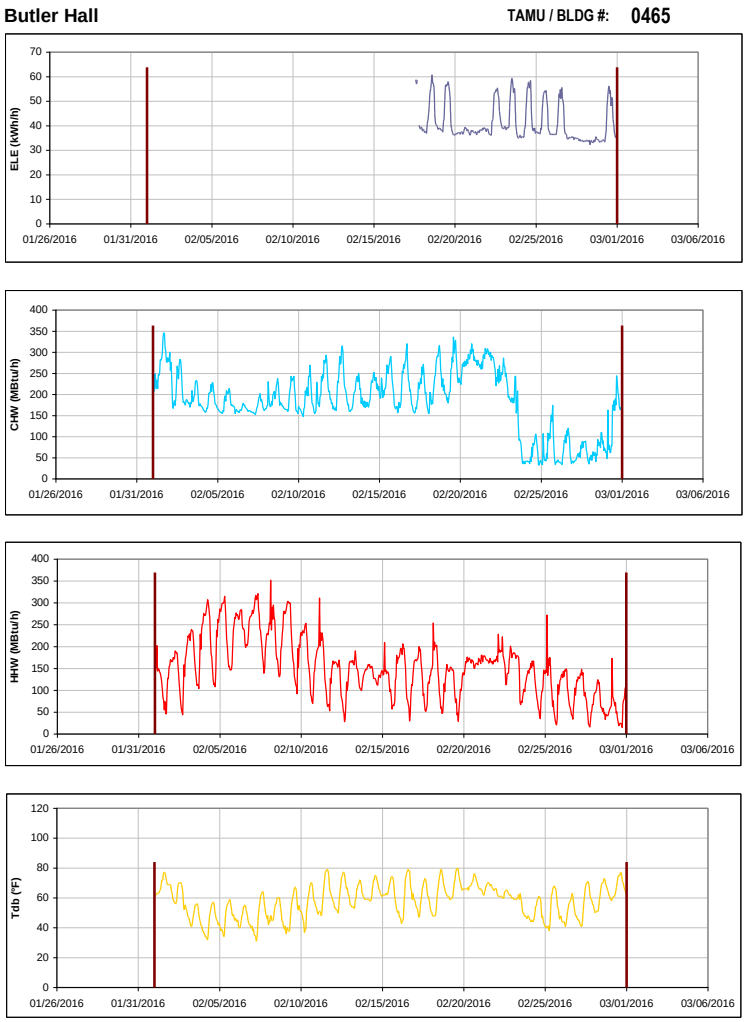


Figure III-75 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Butler Hall during the Month of TSPlots and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

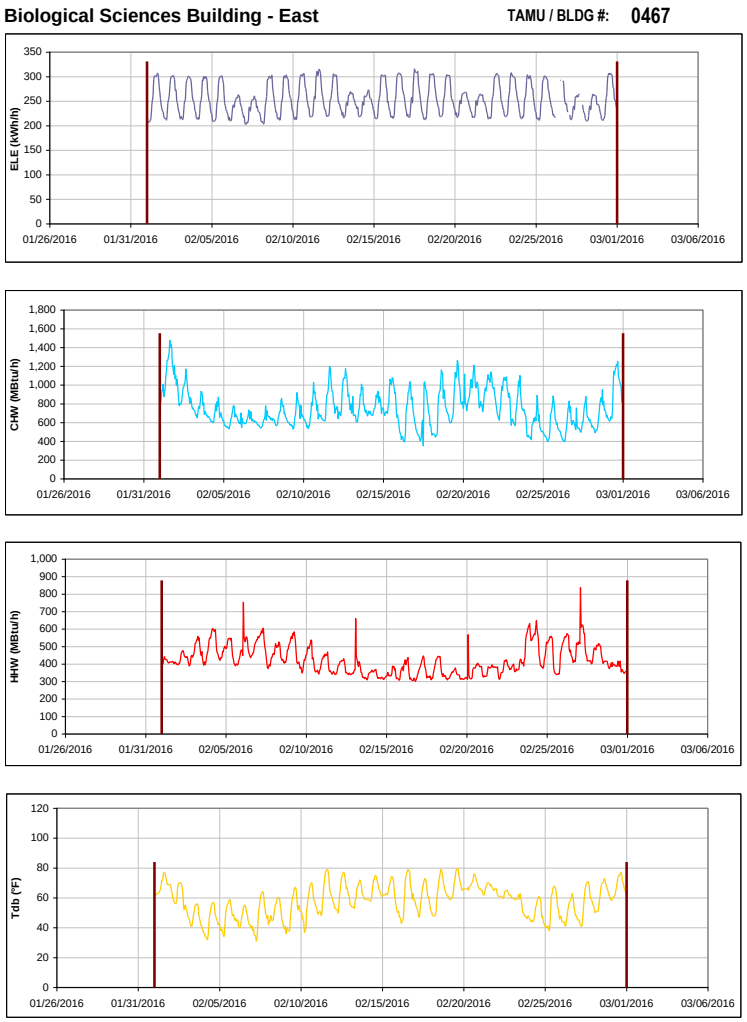


Figure III-76 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Biological Sciences Building - East during the Month of TSPlots and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

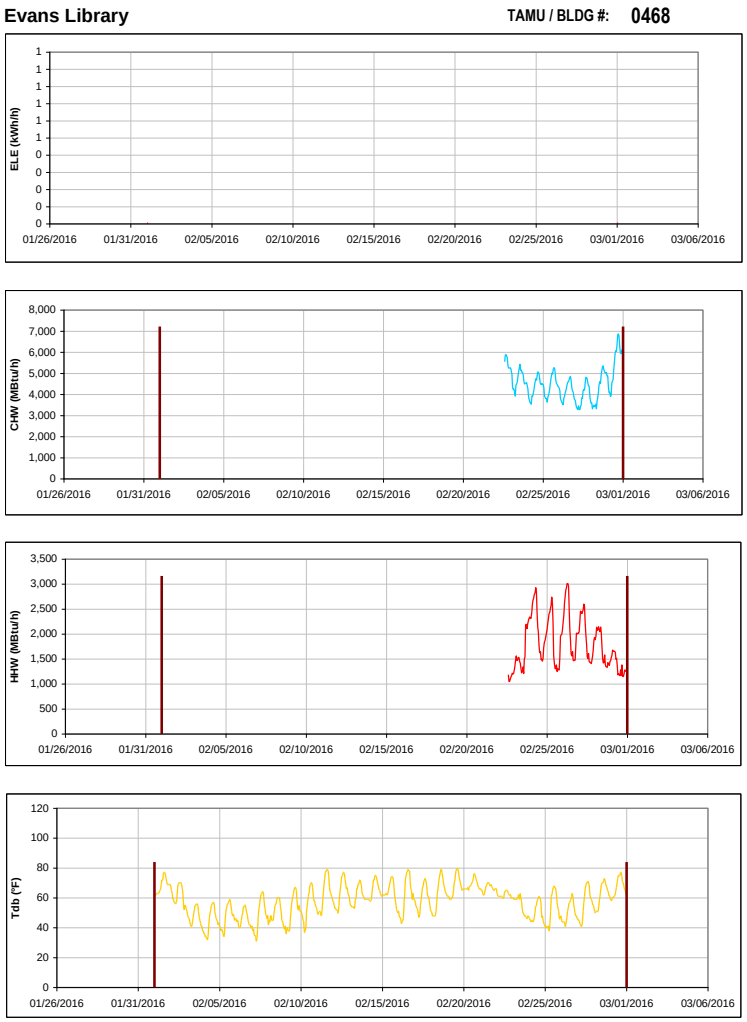


Figure III-77 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Evans Library during the Month of TSPlots and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

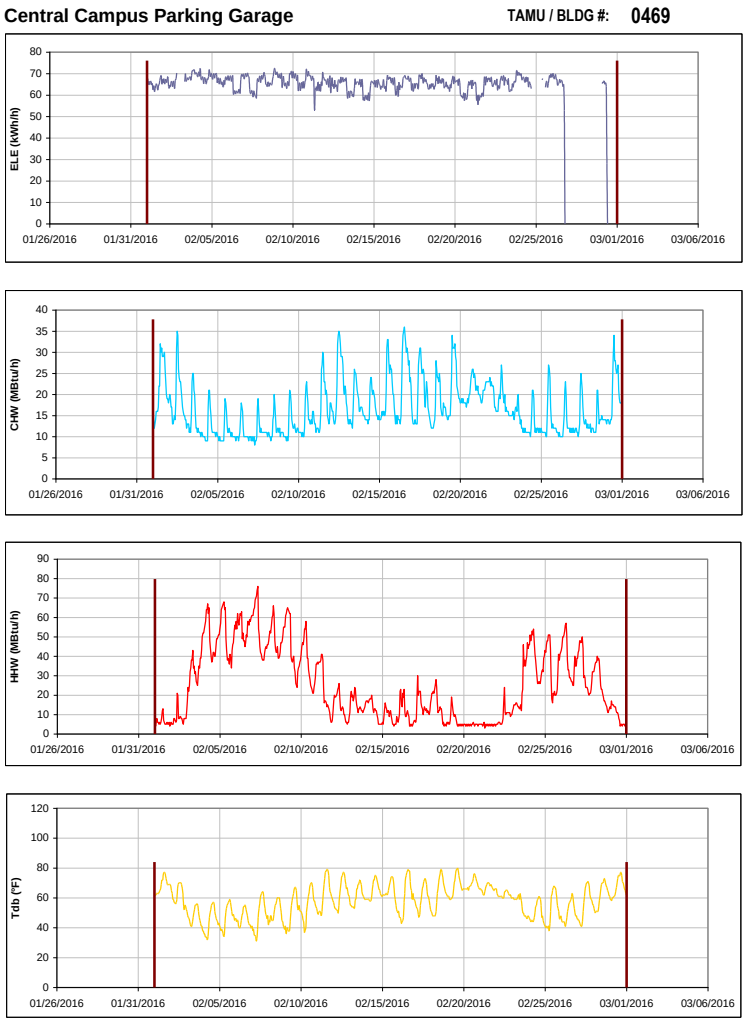


Figure III-78 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Central Campus Parking Garage during the Month of TSPlots and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

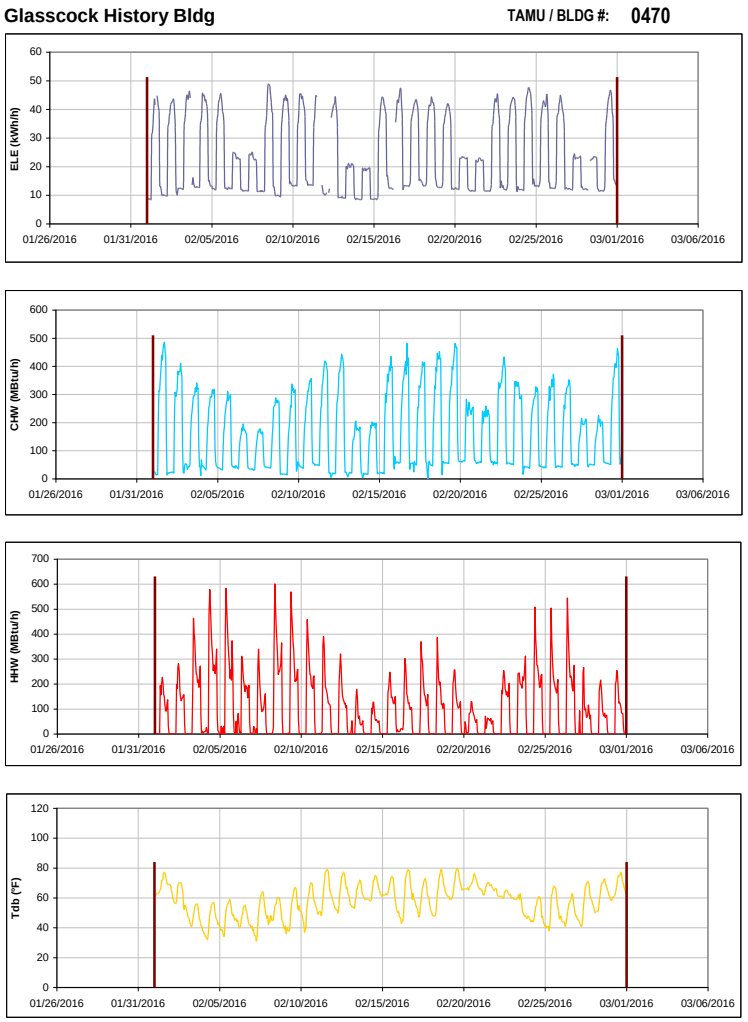


Figure III-79 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Glasscock History Bldg during the Month of TSPlots and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

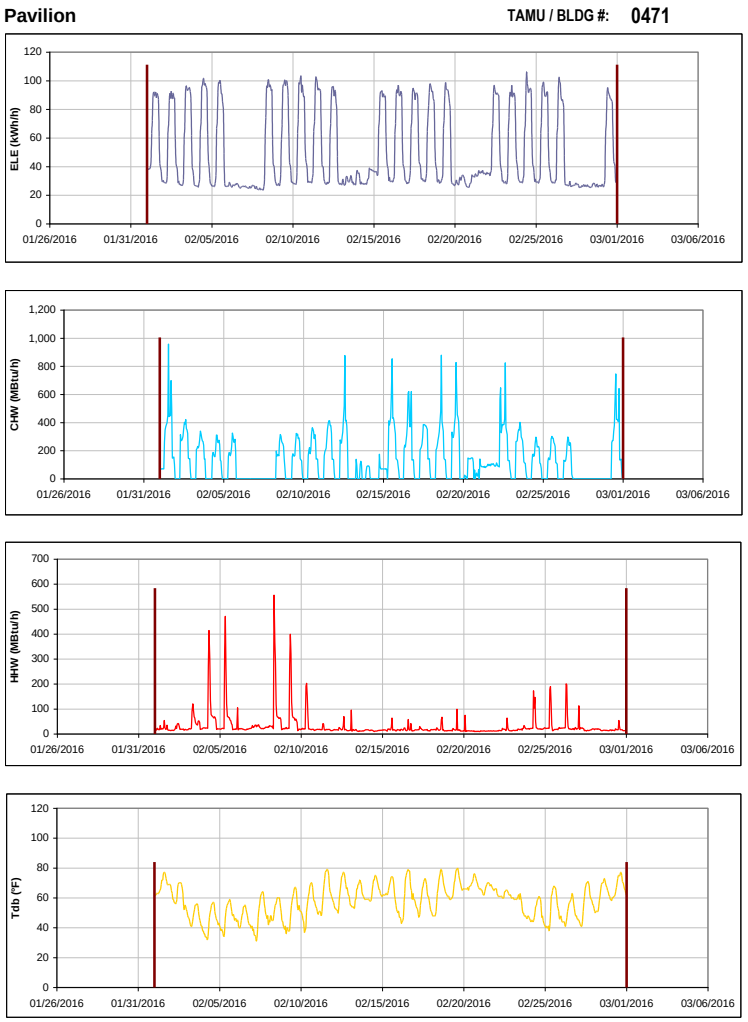


Figure III-80 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Pavilion during the Month of TSPlots and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

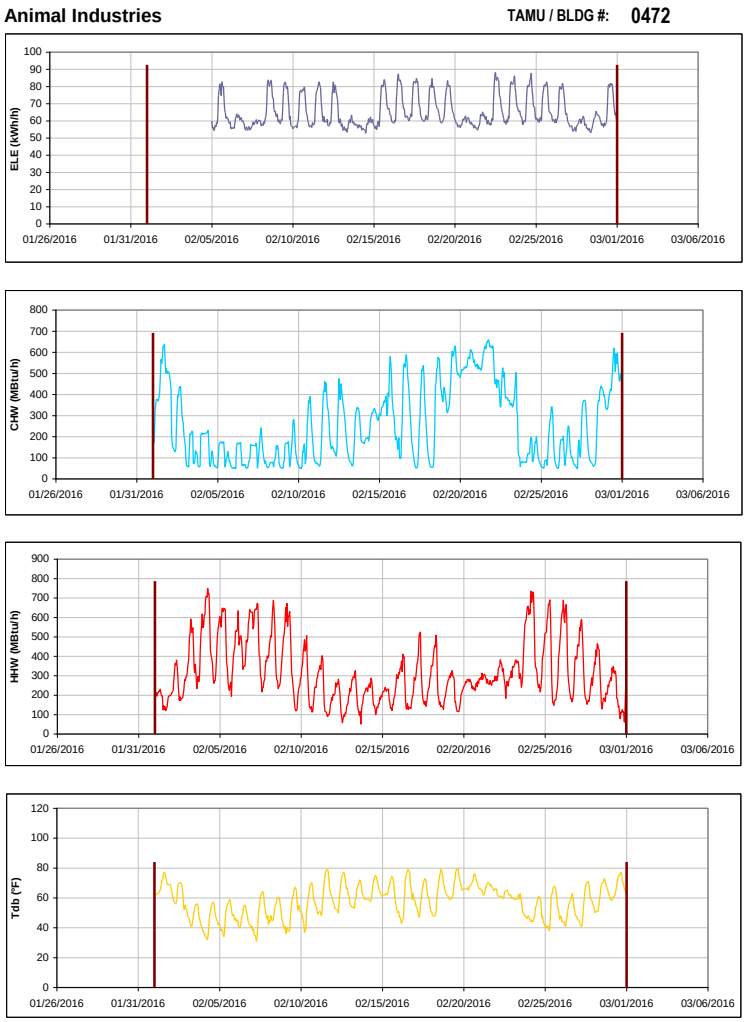


Figure III-81 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Animal Industries during the Month of TSPlots and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

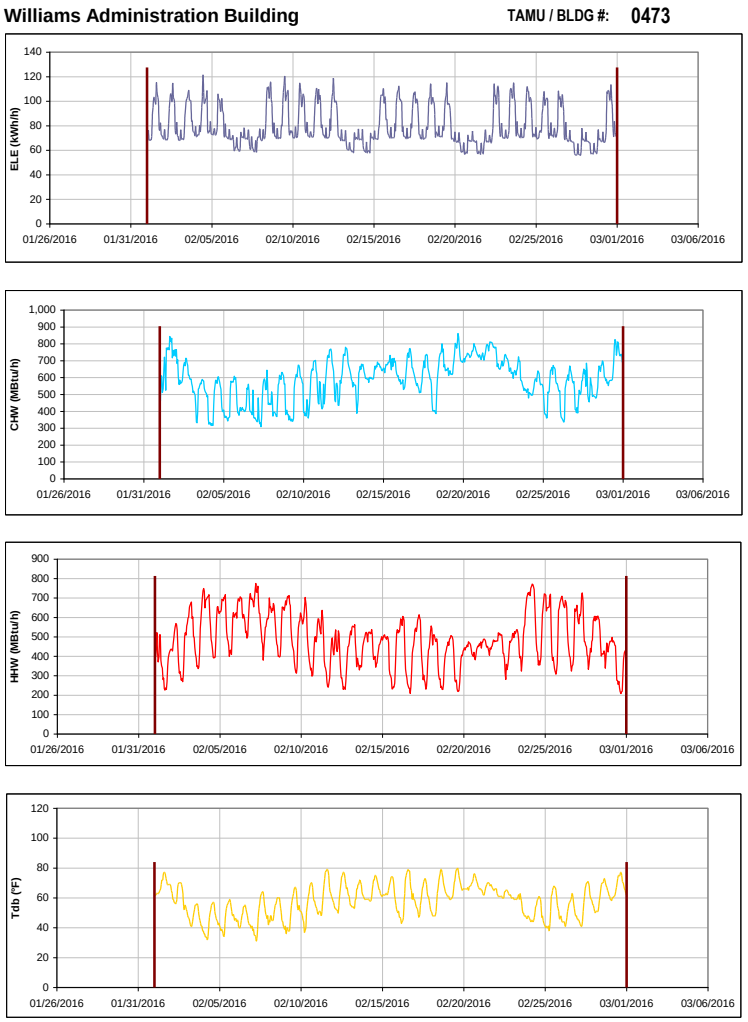


Figure III-82 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Williams Administration Building during the Month of TSPlots and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

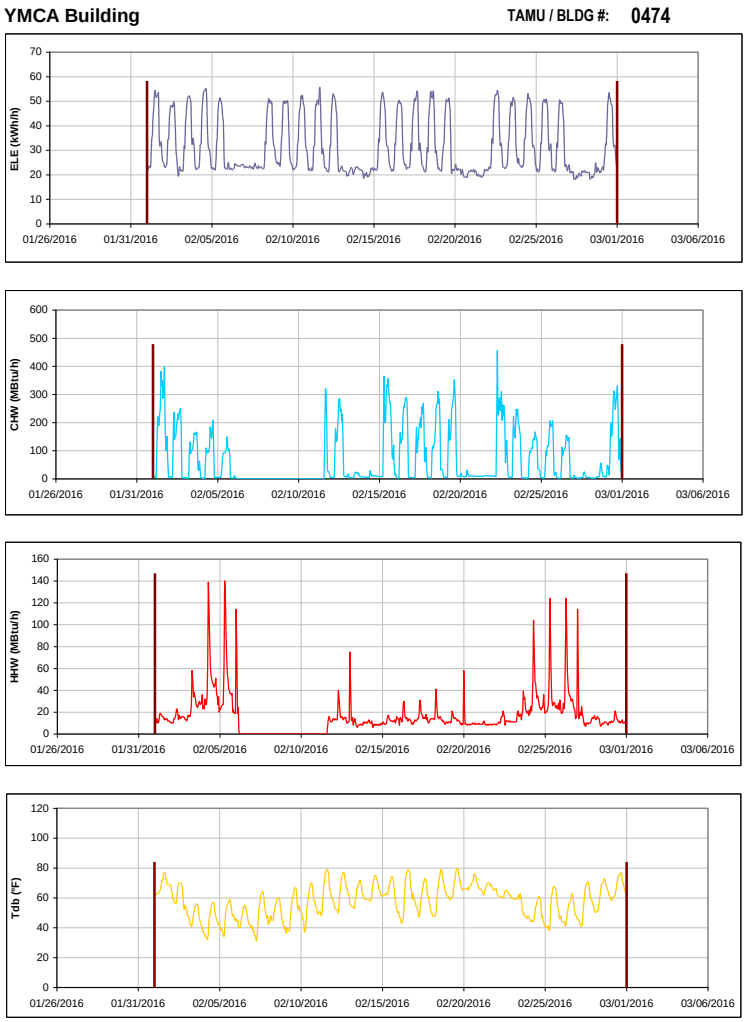


Figure III-83 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for YMCA Building during the Month of TSPlots and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

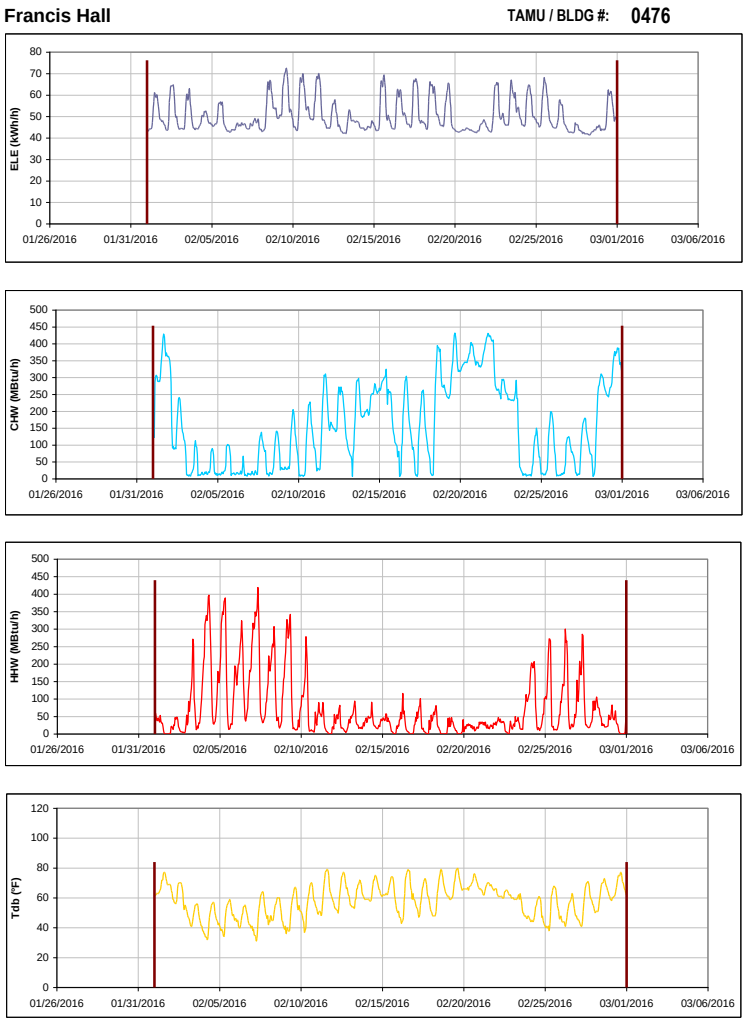


Figure III-84 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Francis Hall during the Month of TSPlots and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

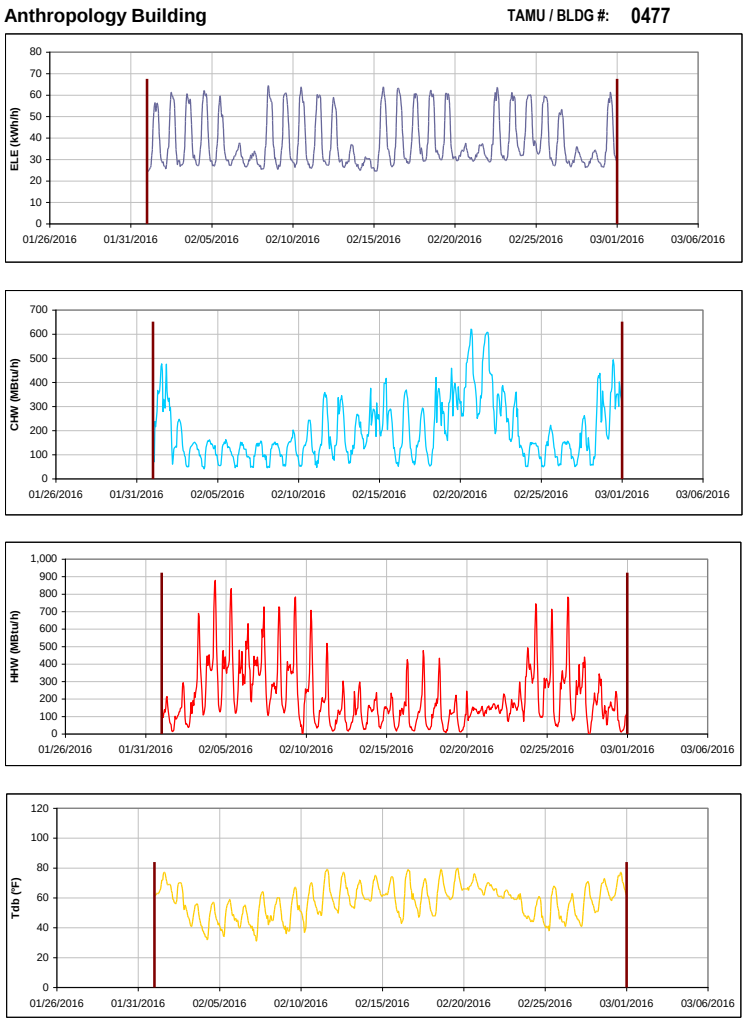


Figure III-85 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Anthropology Building during the Month of TSPlots and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

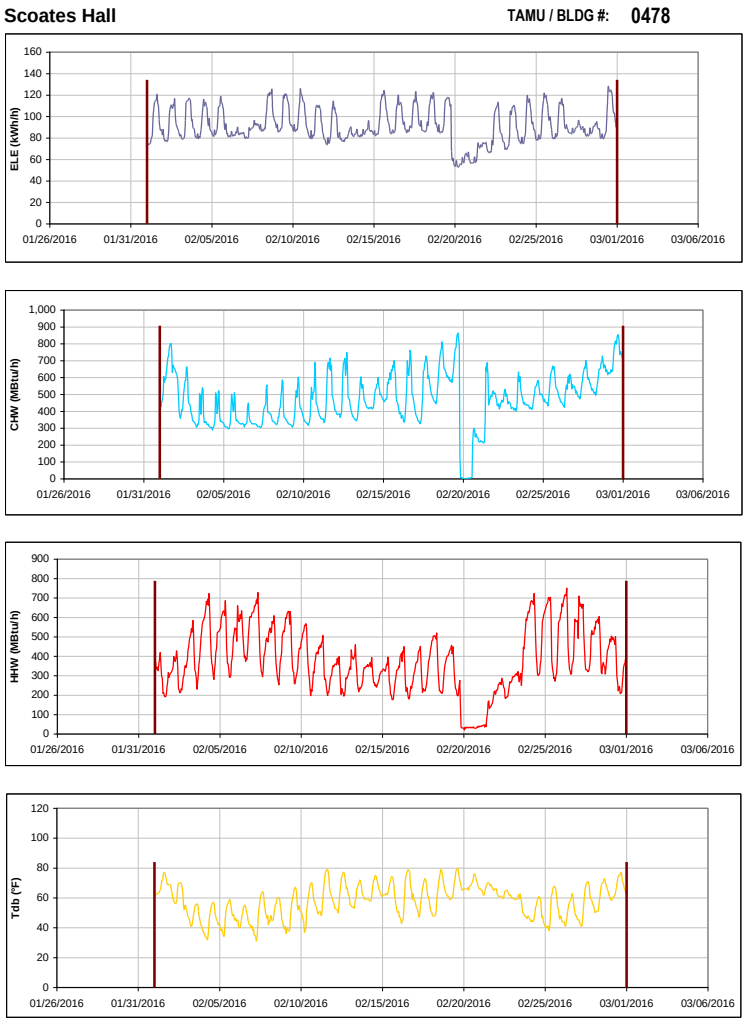


Figure III-86 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Scoates Hall during the Month of TSPlots and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

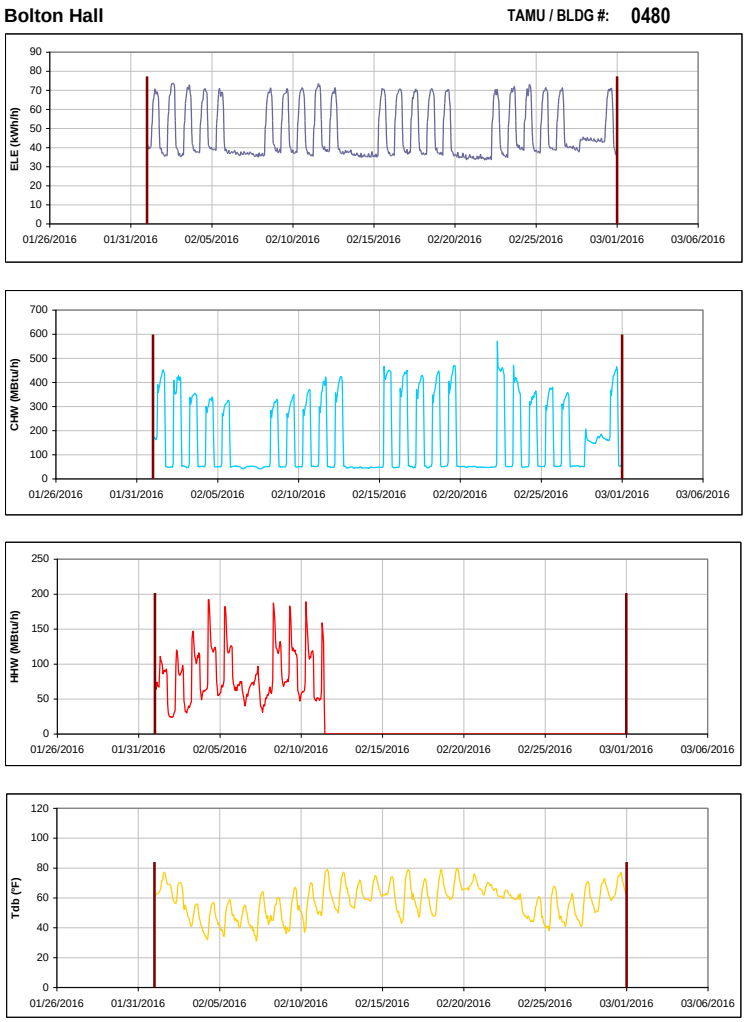


Figure III-87 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Bolton Hall during the Month of TSPlots and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

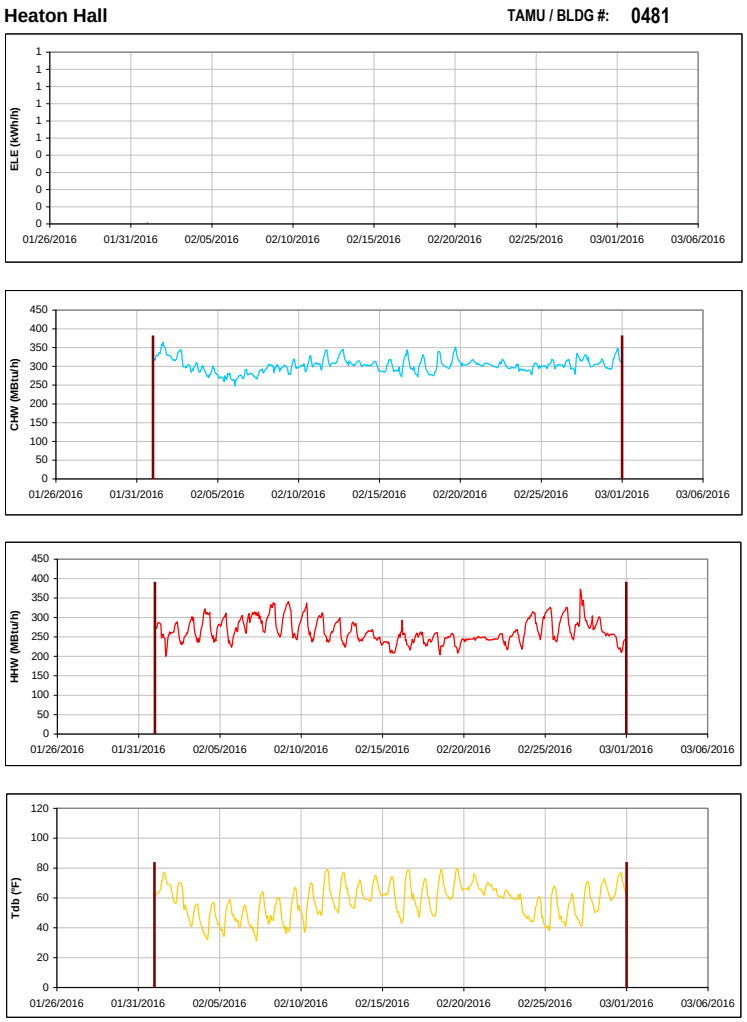


Figure III-88 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Heaton Hall during the Month of TSPlots and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

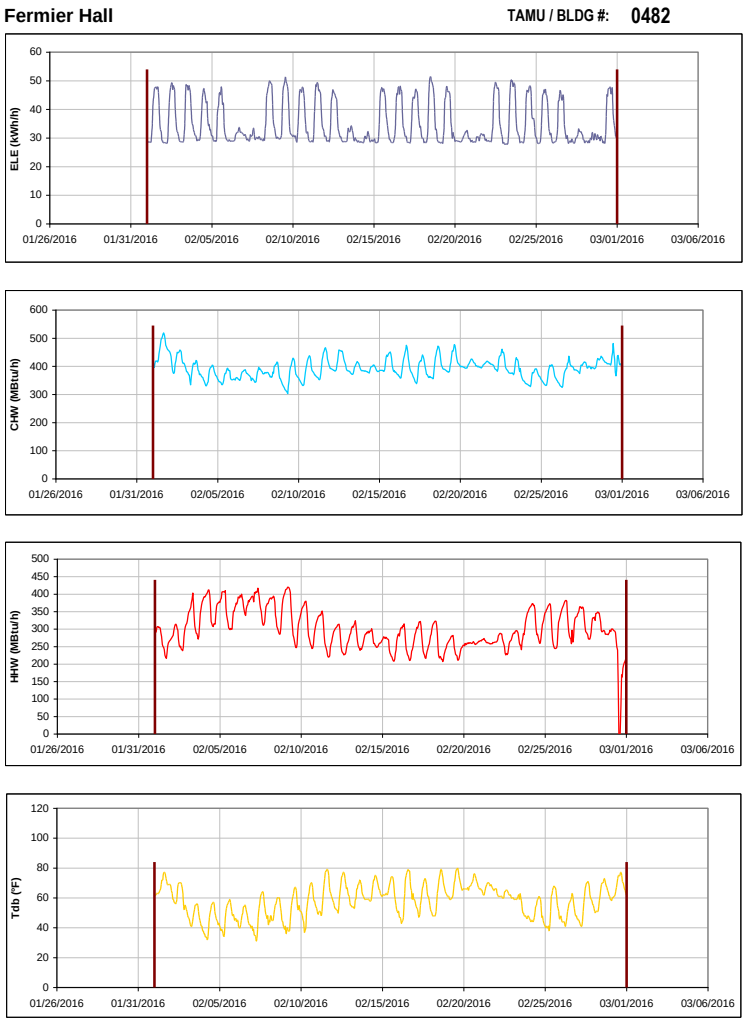


Figure III-89 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Fermier Hall during the Month of TSPlots and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

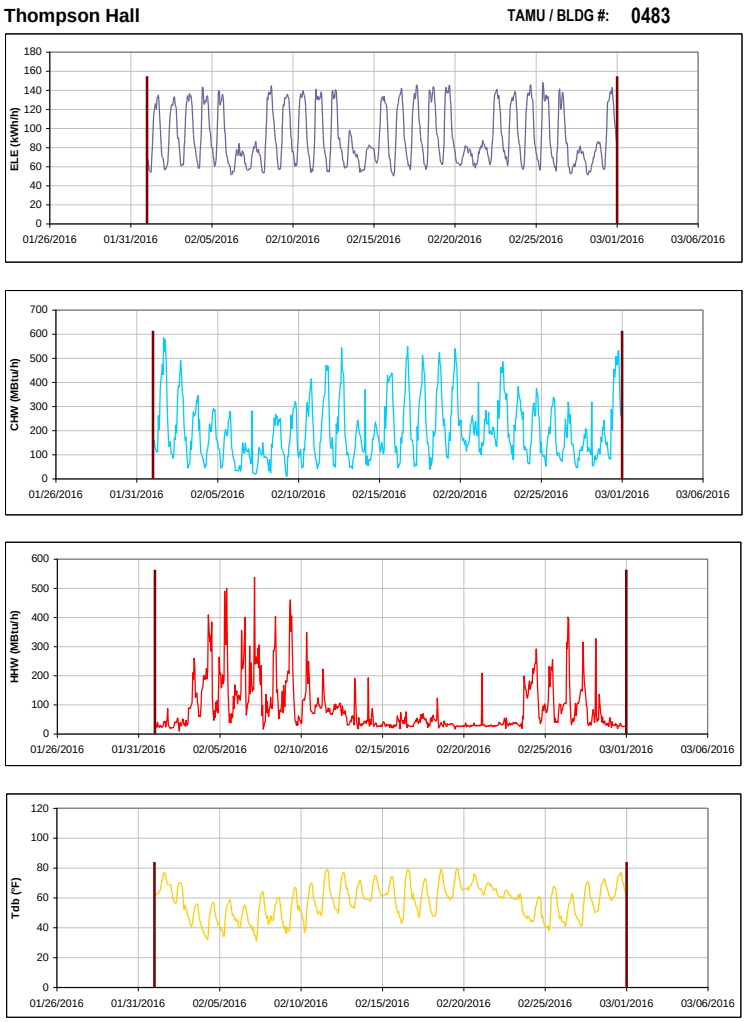


Figure III-90 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Thompson Hall during the Month of TSPlots and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

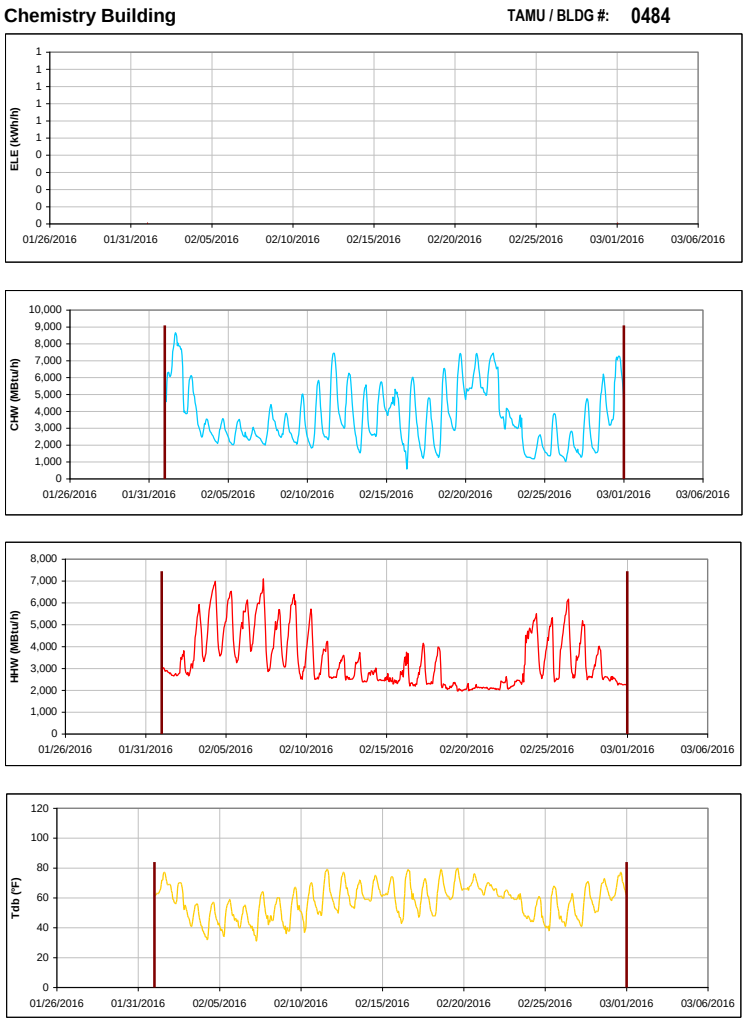


Figure III-91 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Chemistry Building during the Month of TSPlots and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

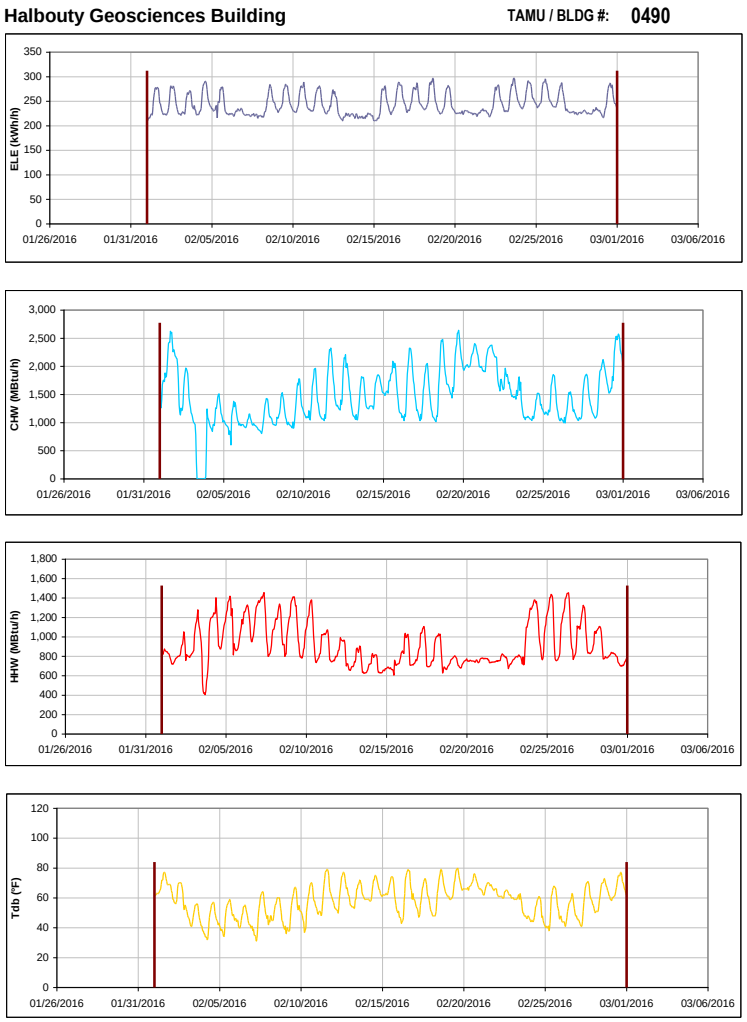


Figure III-92 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Halbouty Geosciences Building during the Month of TSPlots and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

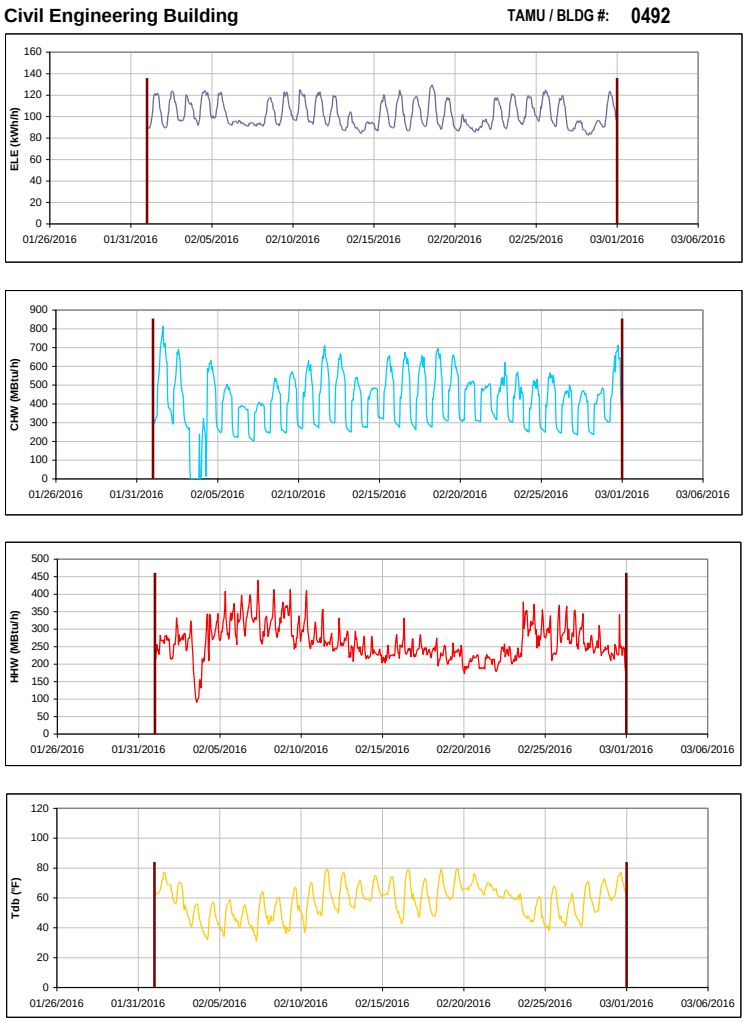


Figure III-93 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Civil Engineering Building during the Month of TSPlots and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

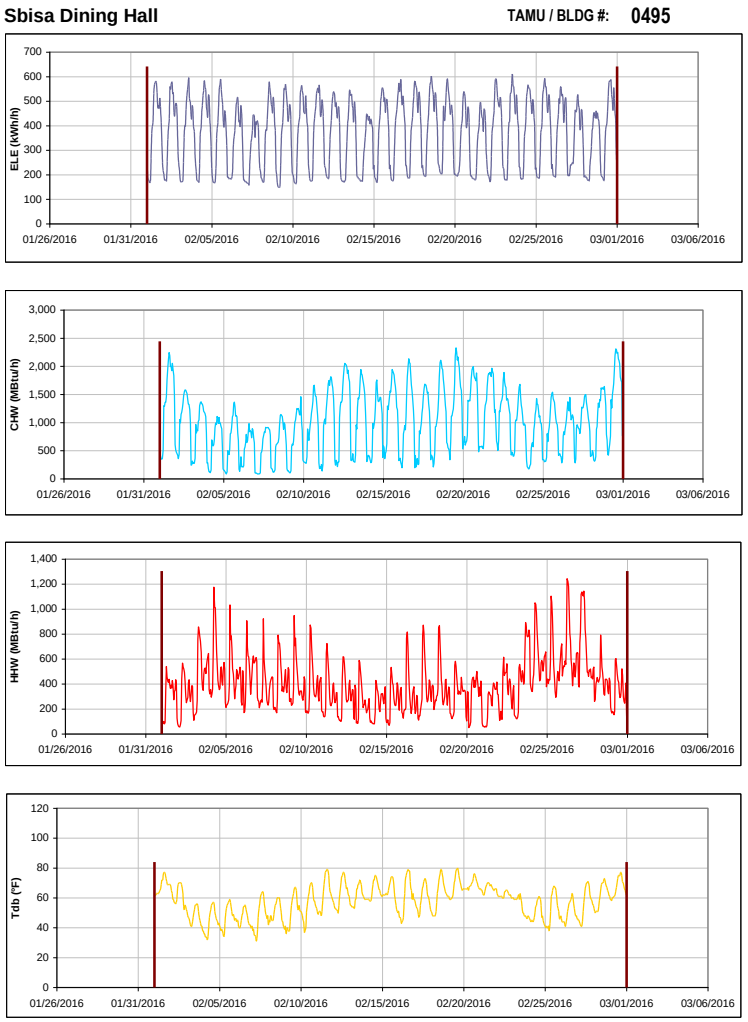


Figure III-94 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Sbisa Dining Hall during the Month of TSPlots and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

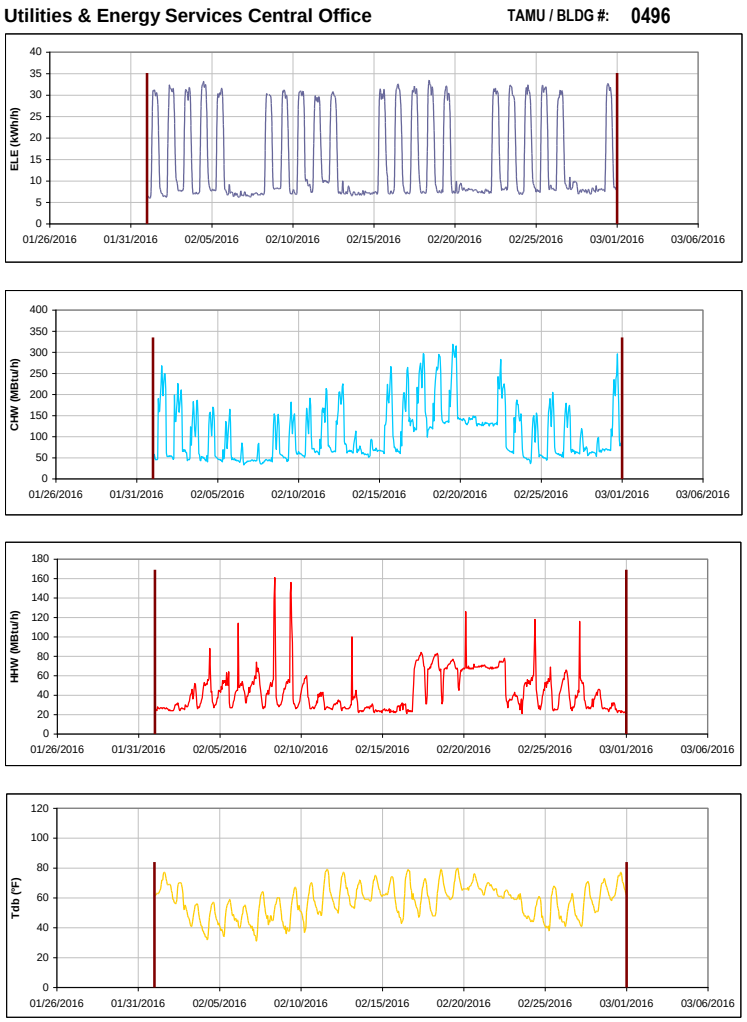


Figure III-95 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Utilities & Energy Services Central Office during the Month of TSPlots and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

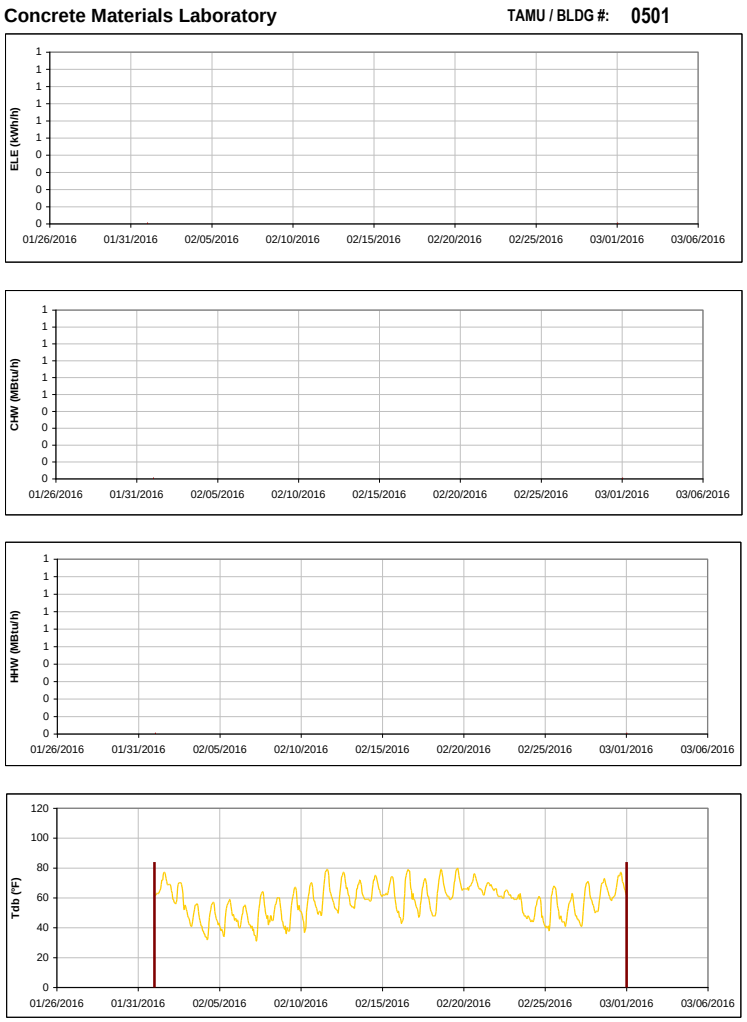


Figure III-96 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Concrete Materials Laboratory during the Month of TSPlots and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

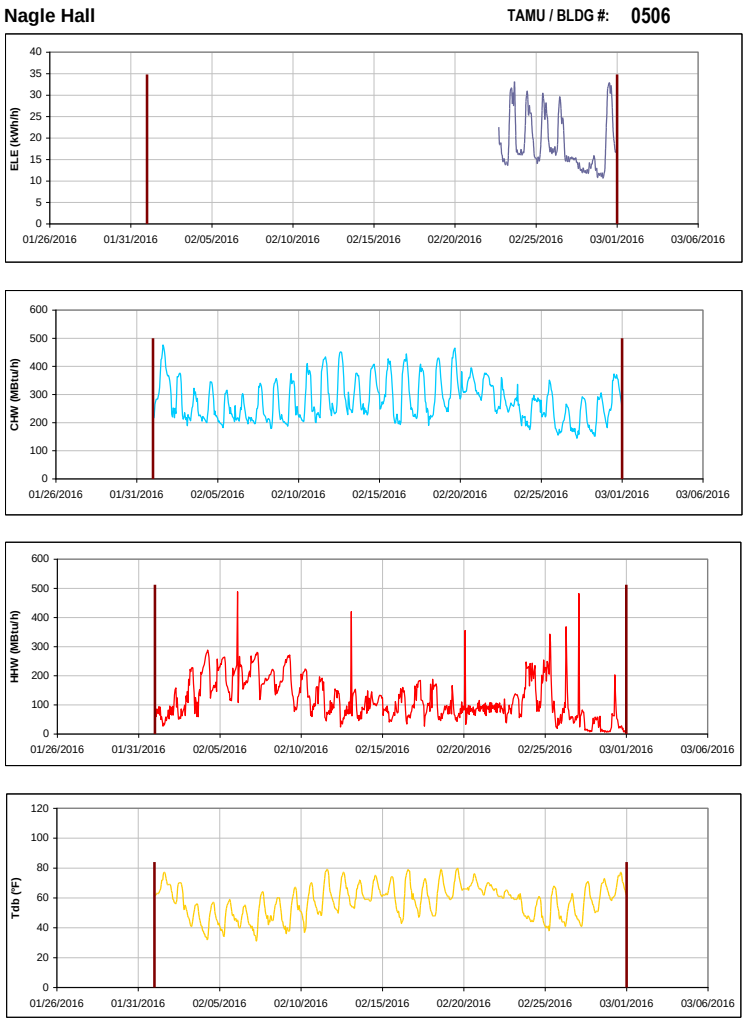


Figure III-97 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Nagle Hall during the Month of TSPlots and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

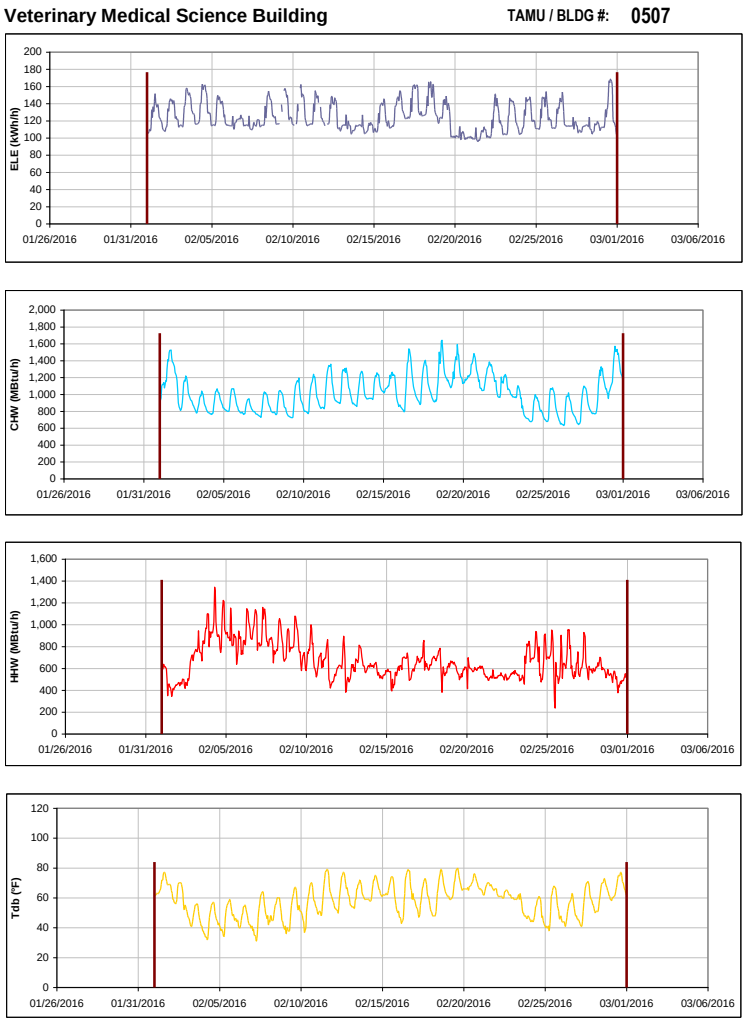


Figure III-98 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Veterinary Medical Science Building during the Month of TSPlots and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

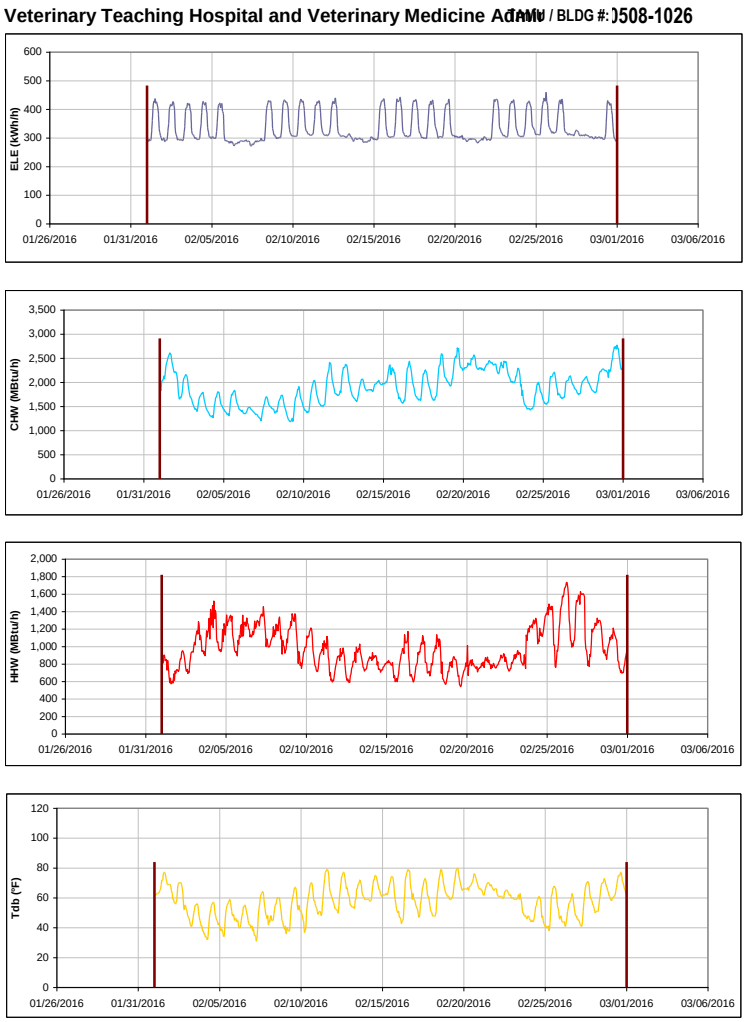


Figure III-99 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Veterinary Teaching Hospital and Veterinary Medicine Administration during the Month of TSPlots and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station

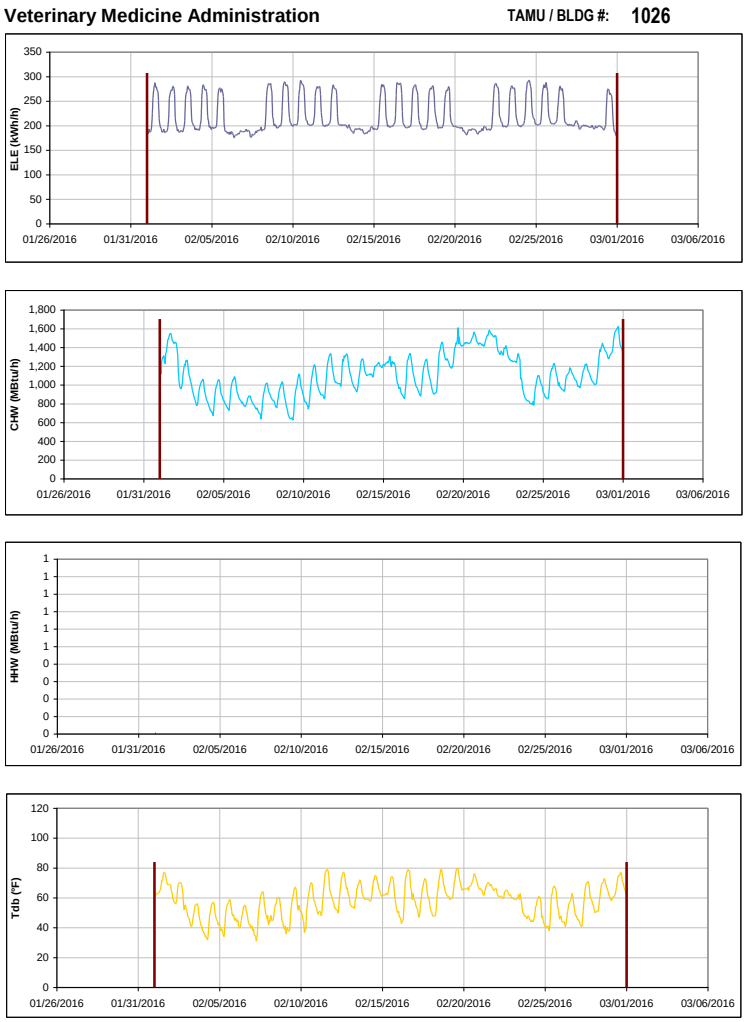


Figure III-100 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Veterinary Medicine Administration during the Month of TSPlots and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

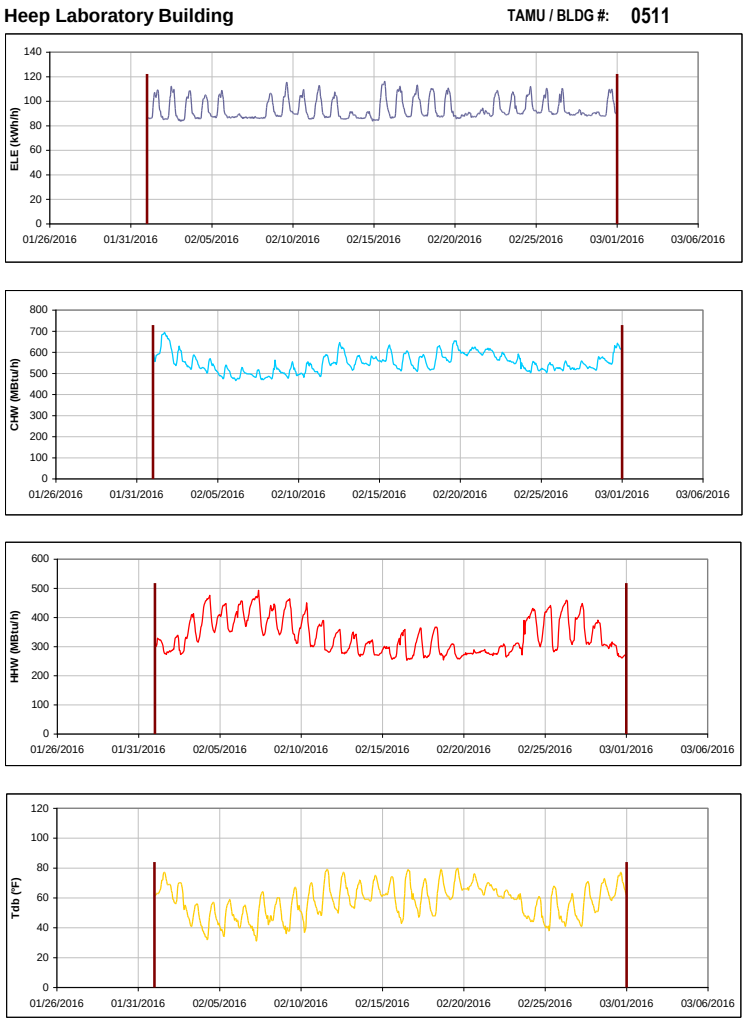


Figure III-101 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Heep Laboratory Building during the Month of TSPlots and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

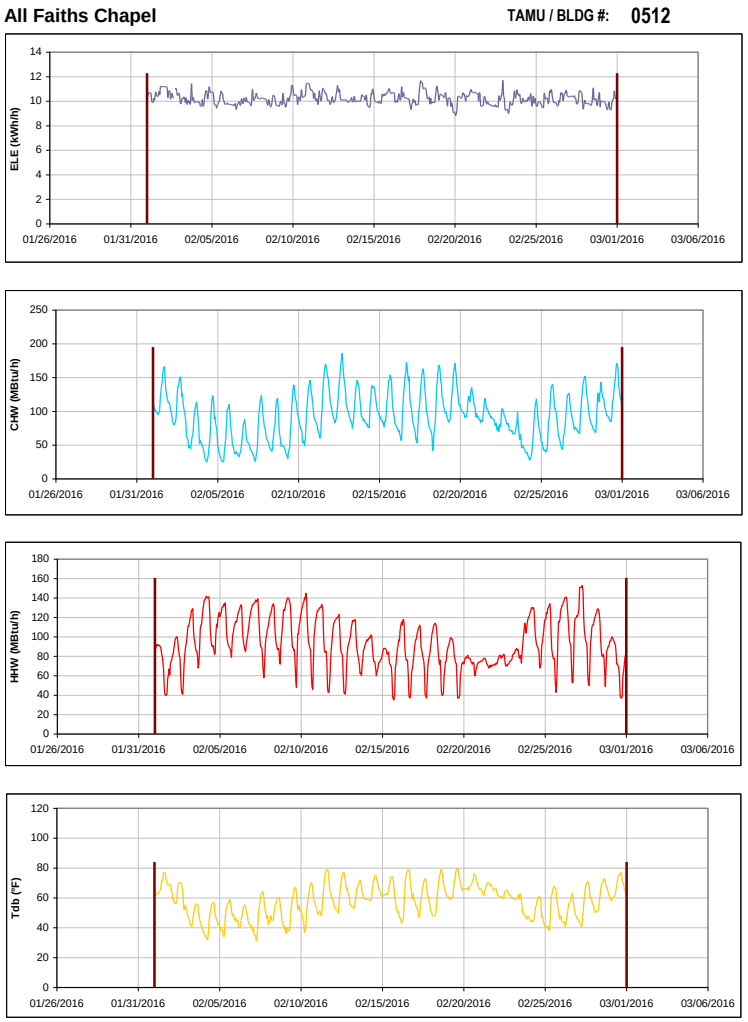


Figure III-102 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for All Faiths Chapel during the Month of TSPlots and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

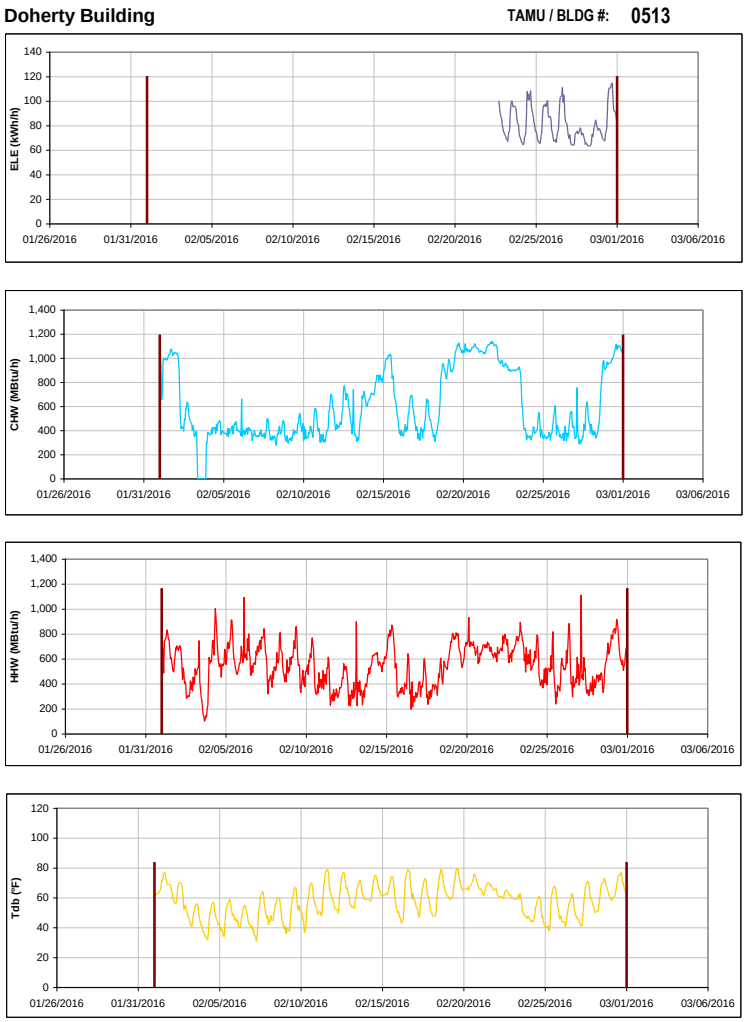


Figure III-103 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Doherty Building during the Month of TSPlots and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

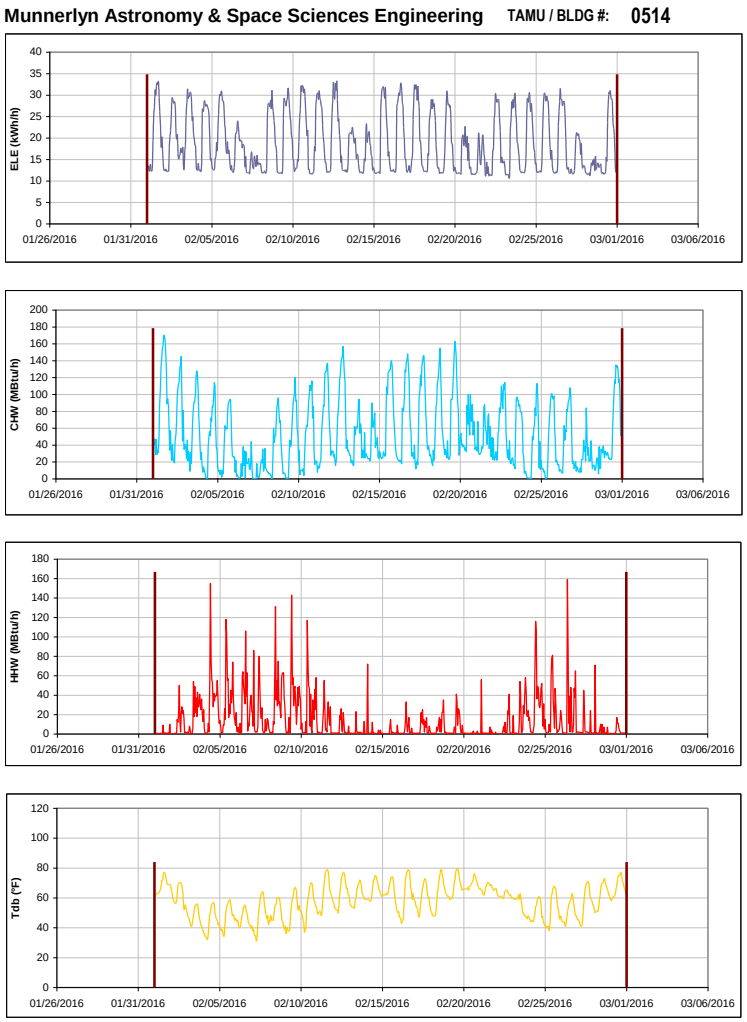


Figure III-104 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Munnerlyn Astronomy & Space Sciences Engineering during the Month of TSPlots and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

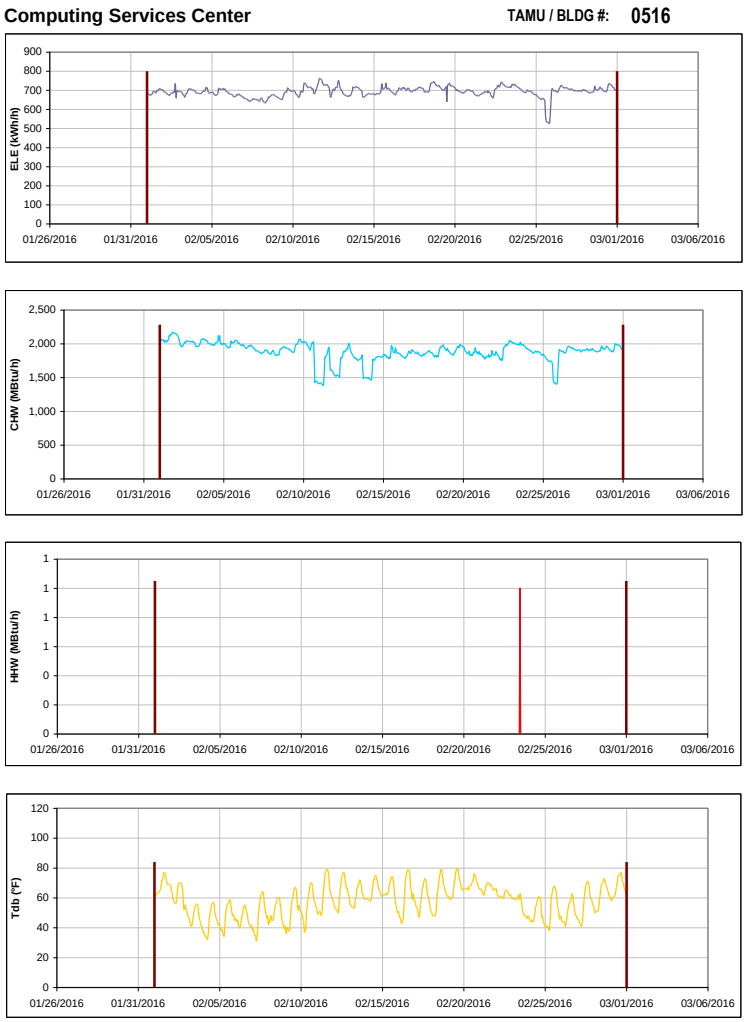


Figure III-105 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Computing Services Center during the Month of TSPlots and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

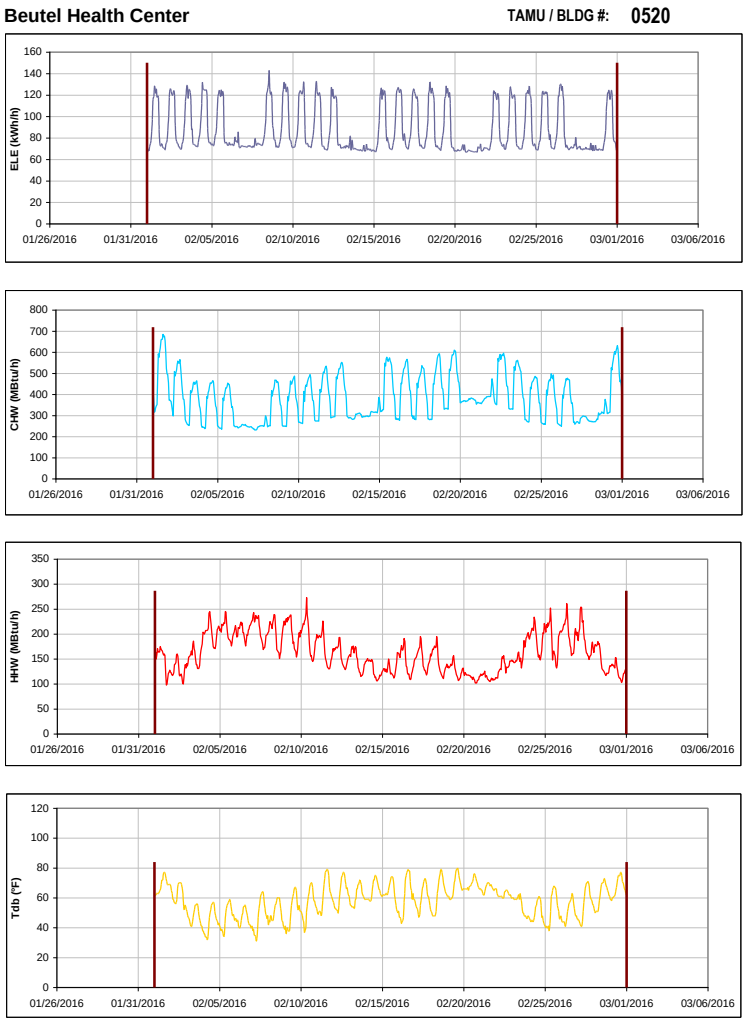


Figure III-106 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Beutel Health Center during the Month of TSPlots and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

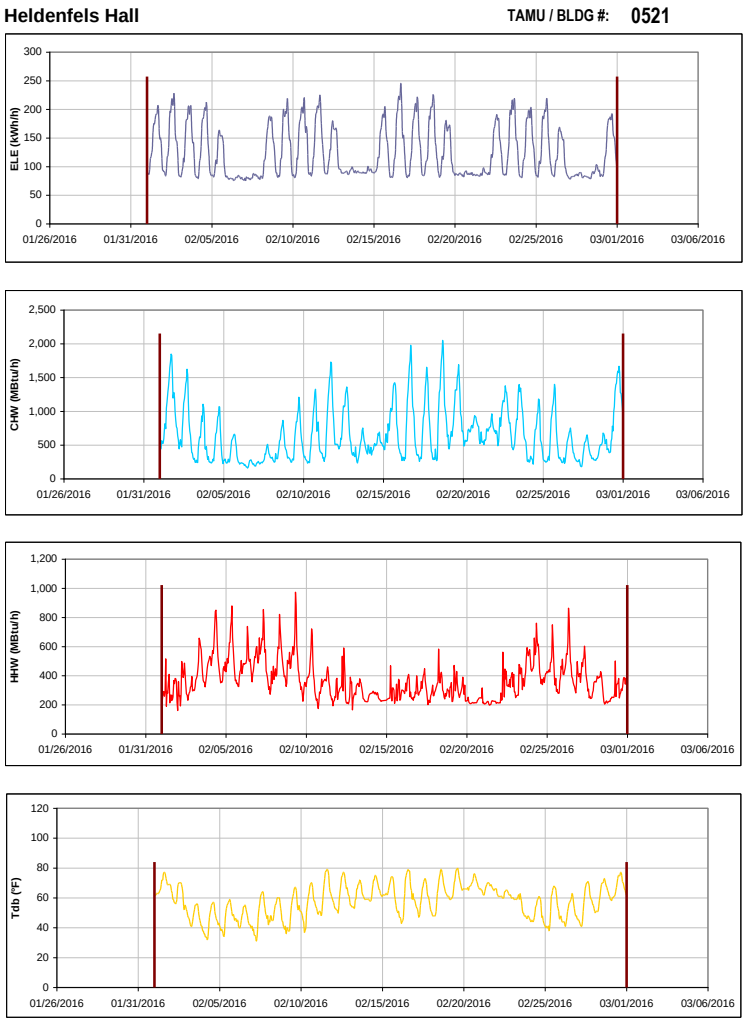


Figure III-107 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Heldenfels Hall during the Month of TSPlots and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

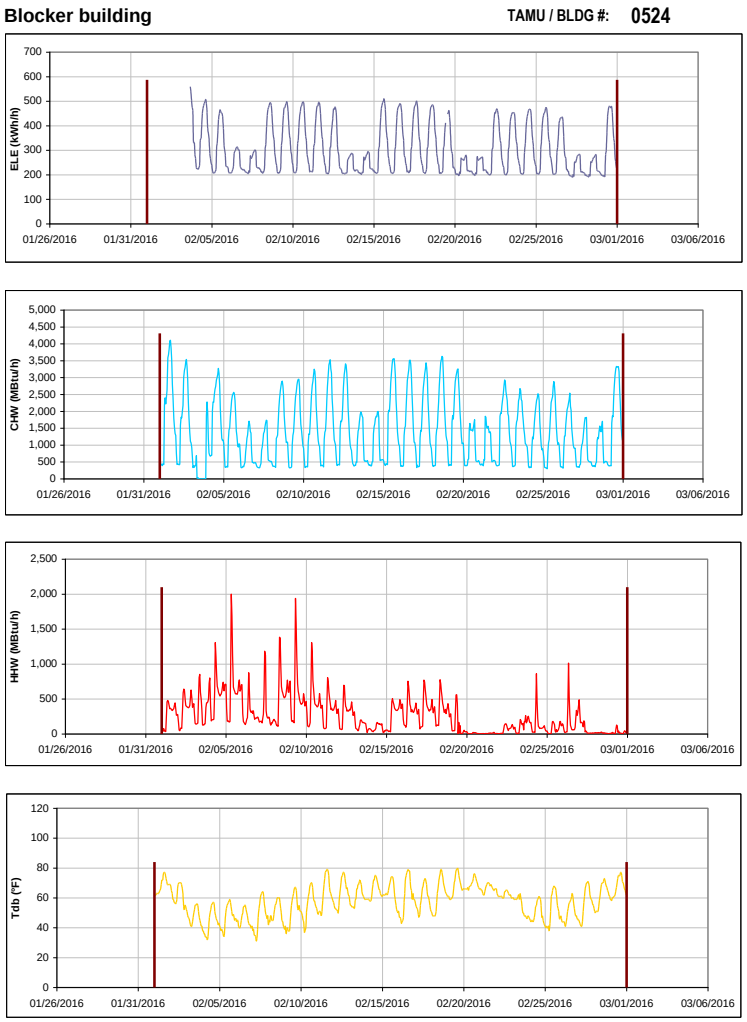


Figure III-108 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Blocker building during the Month of TSPlots and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

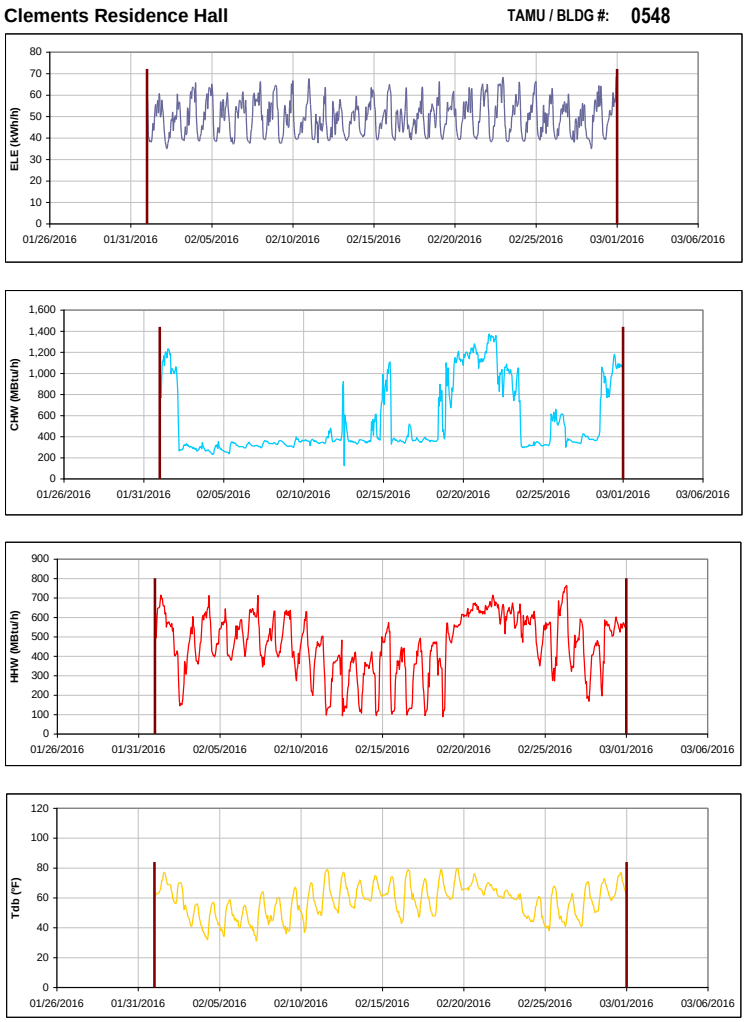


Figure III-109 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Clements Residence Hall during the Month of TSPlots and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

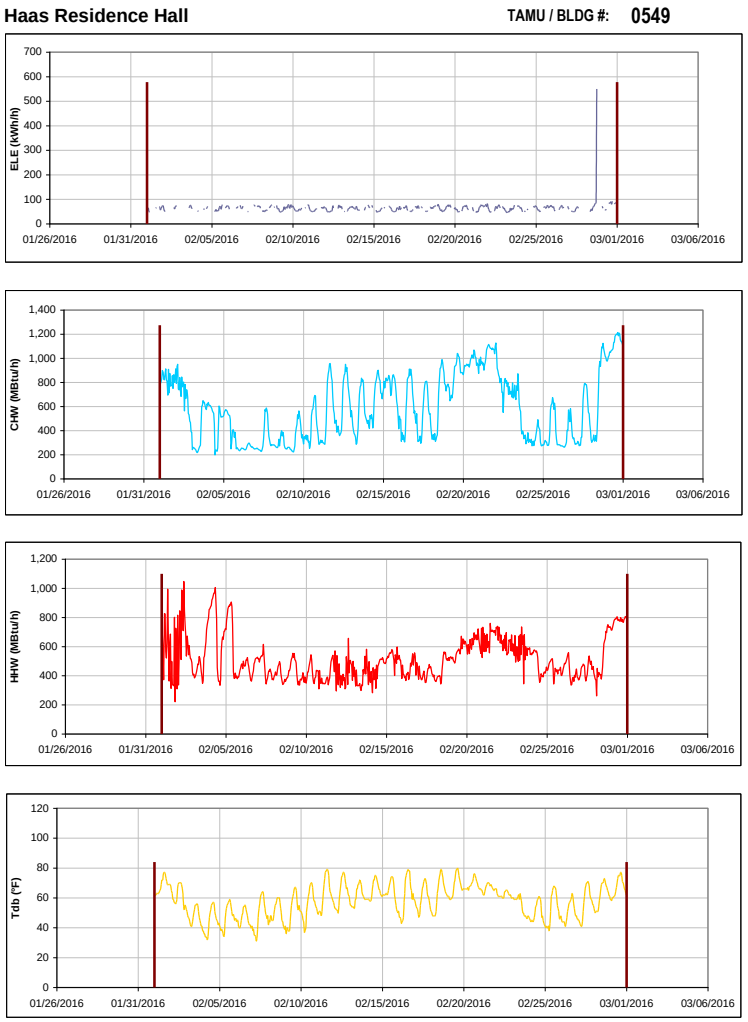


Figure III-110 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Haas Residence Hall during the Month of TSPlots and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

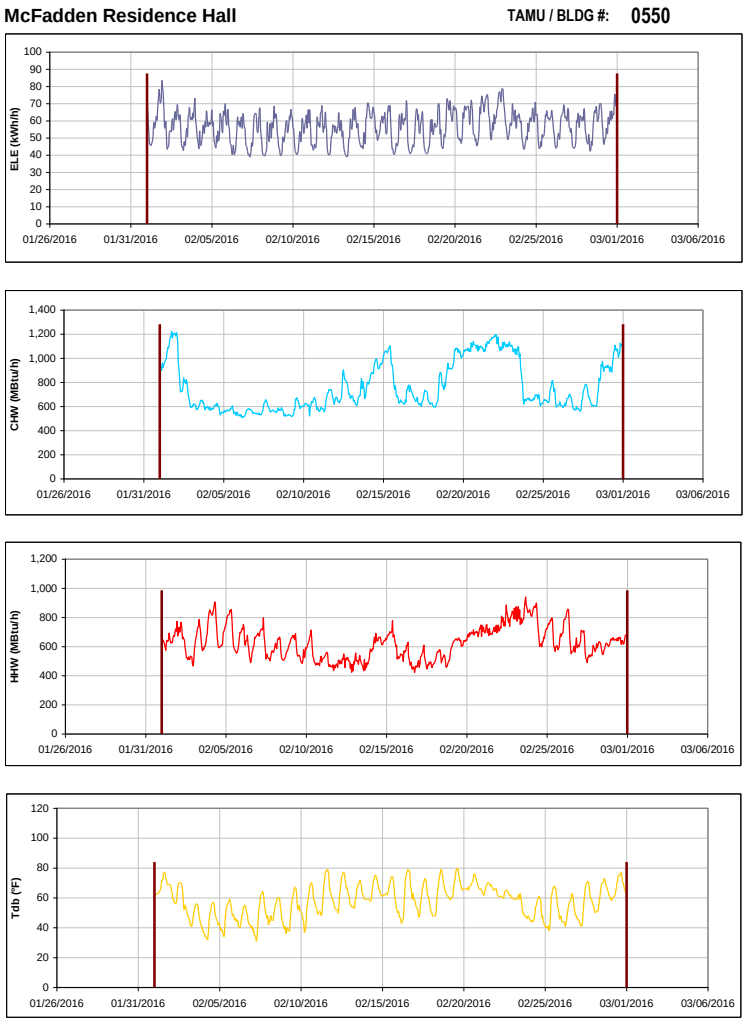


Figure III-111 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for McFadden Residence Hall during the Month of TSPlots and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

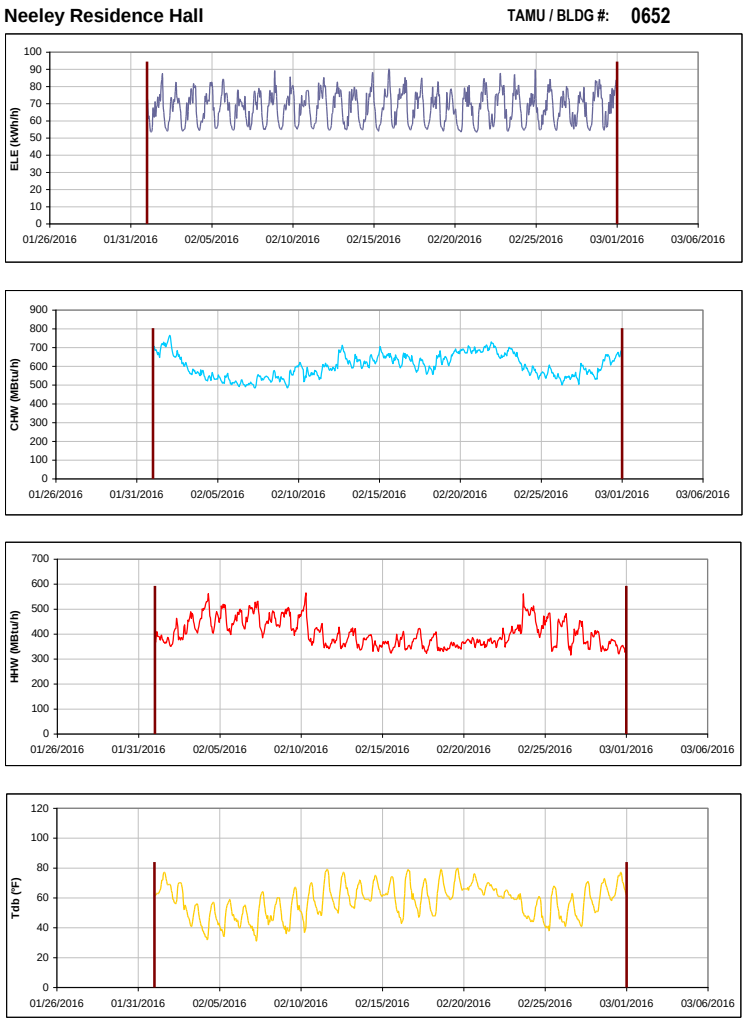


Figure III-112 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Neeley Residence Hall during the Month of TSPlots and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

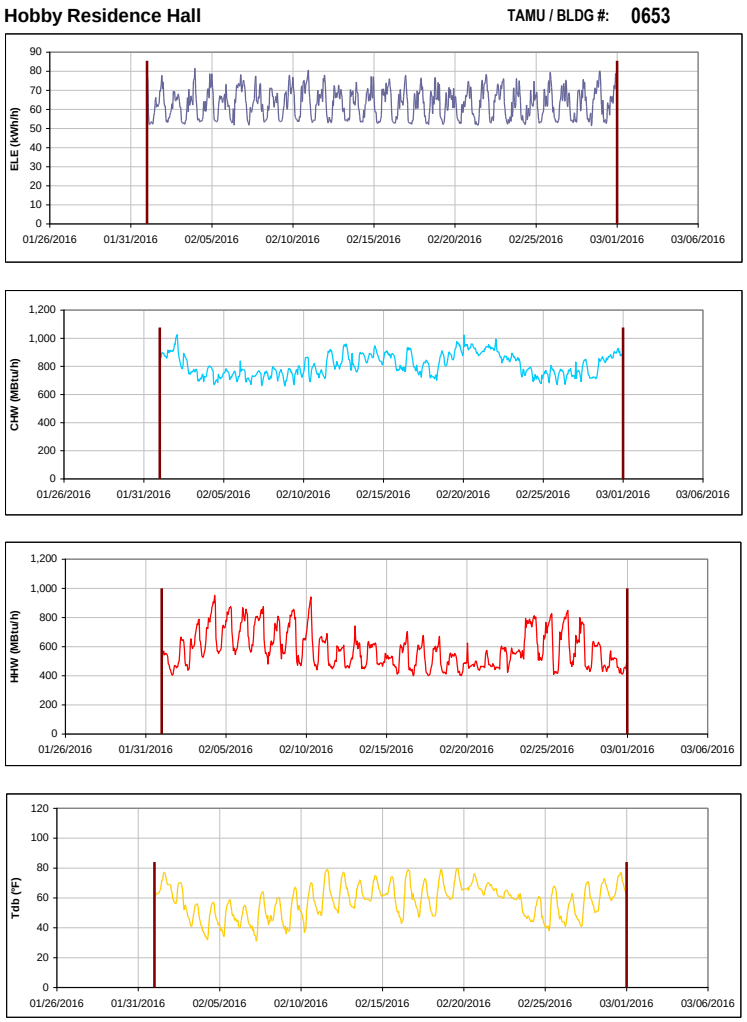


Figure III-113 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Hobby Residence Hall during the Month of TSPlots and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

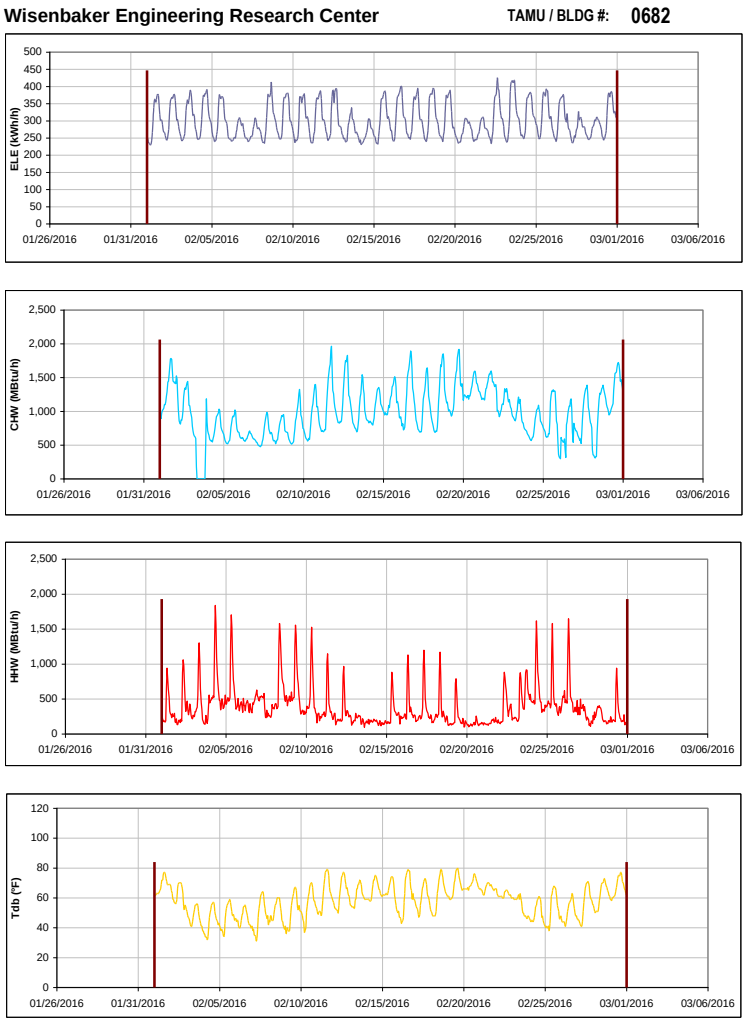


Figure III-114 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Wisenbaker Engineering Research Center during the Month of TSPlots and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

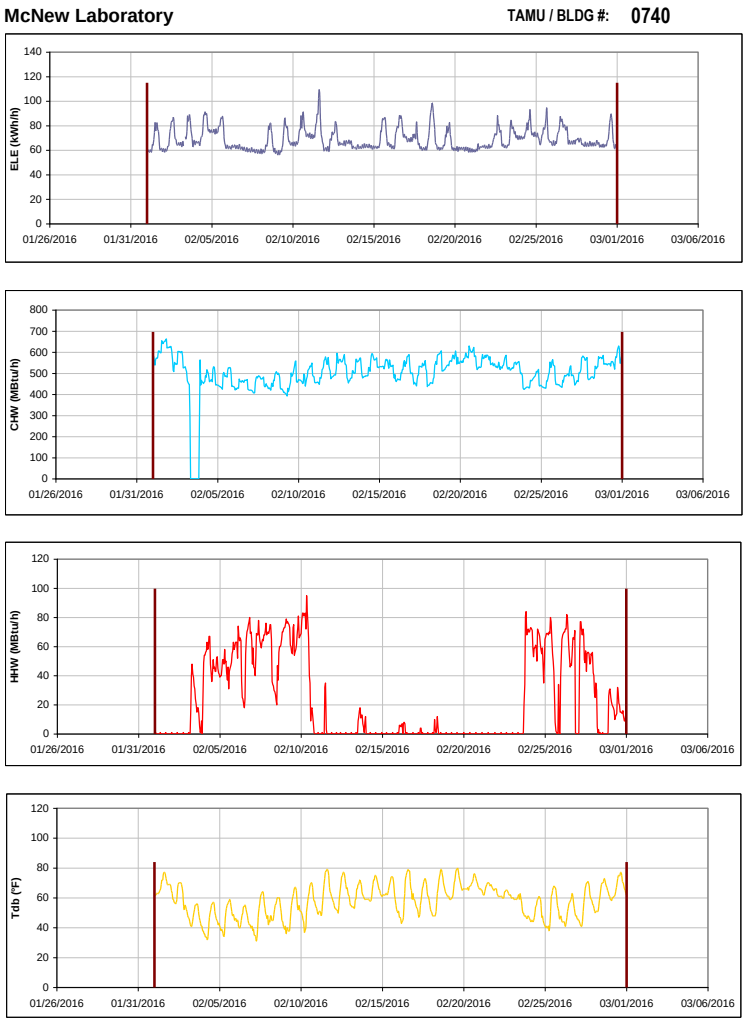


Figure III-115 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for McNew Laboratory during the Month of TSPlots and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

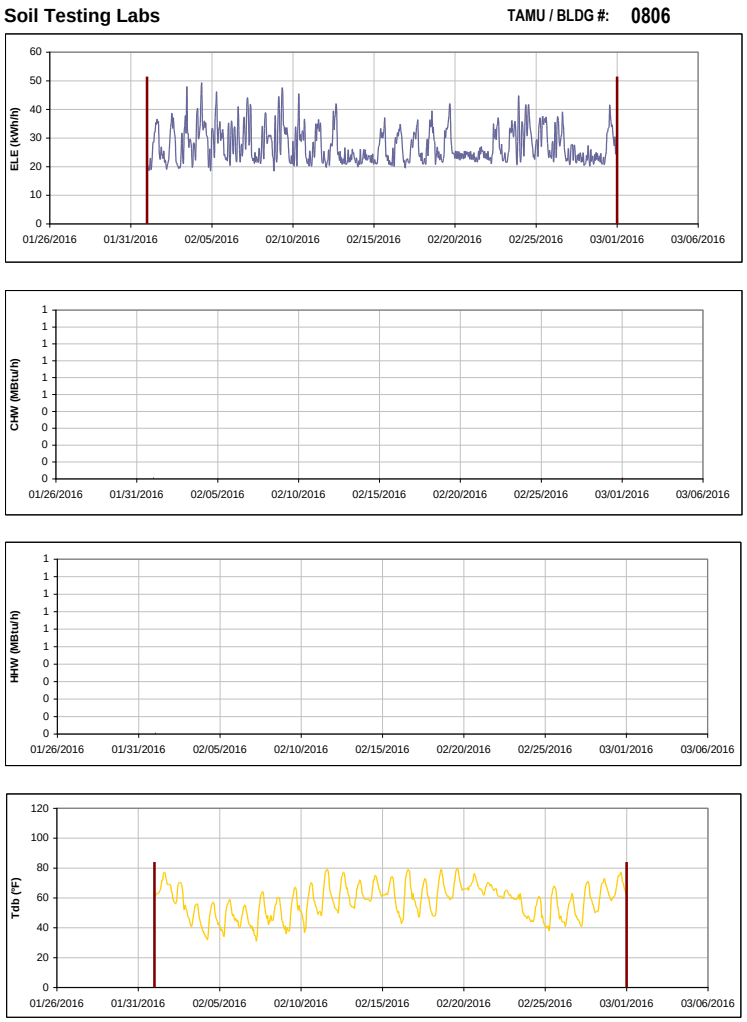


Figure III-116 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Soil Testing Labs during the Month of TSPlots and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

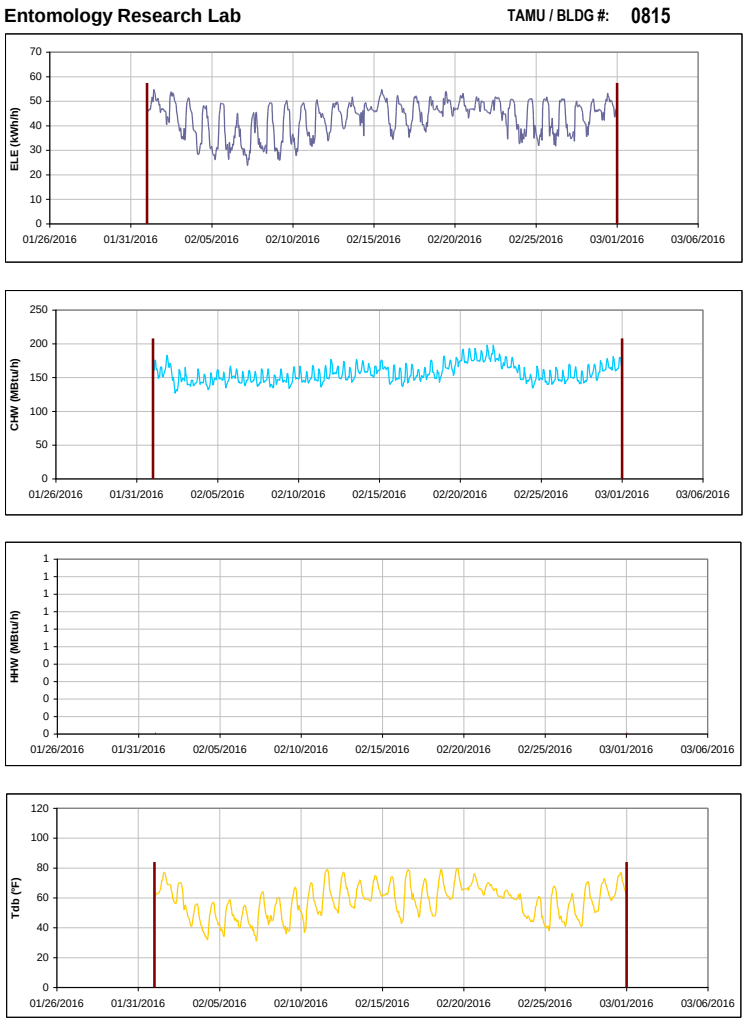


Figure III-117 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Entomology Research Lab during the Month of TSPlots and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

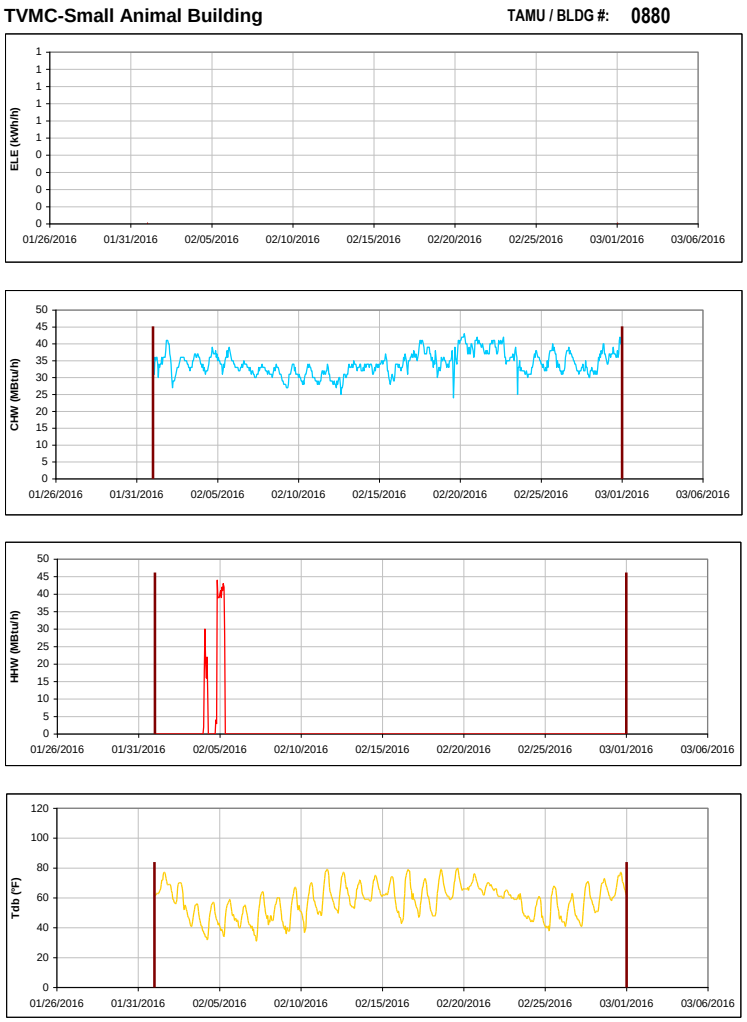


Figure III-118 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for TVMC-Small Animal Building during the Month of TSPlots and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

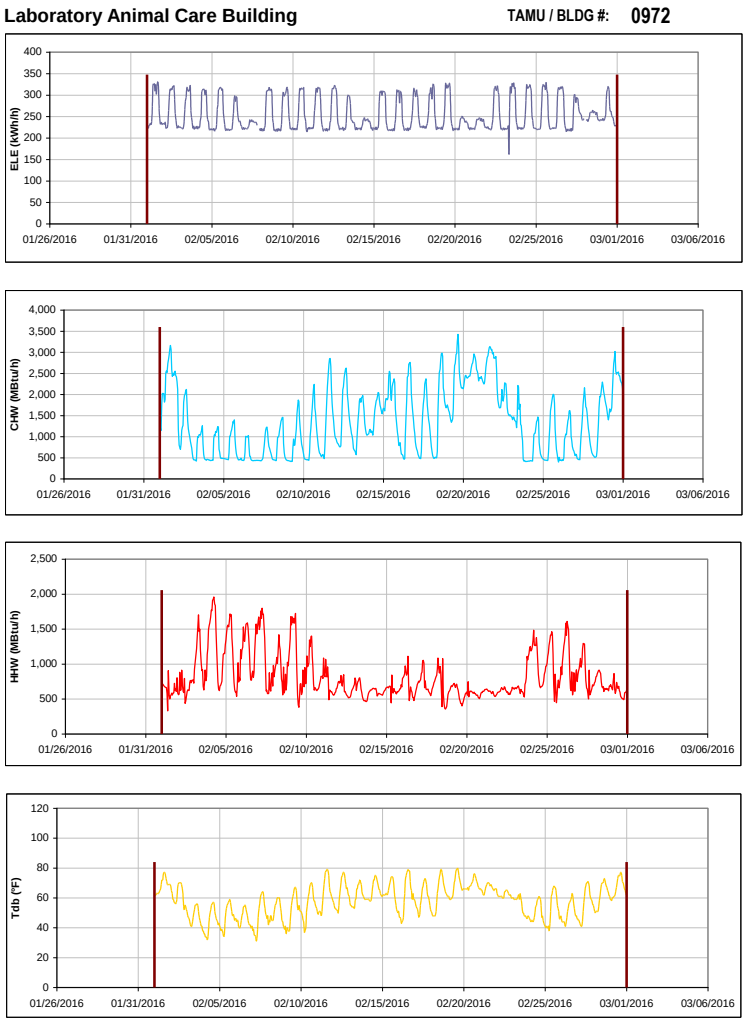


Figure III-119 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Laboratory Animal Care Building during the Month of TSPlots and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

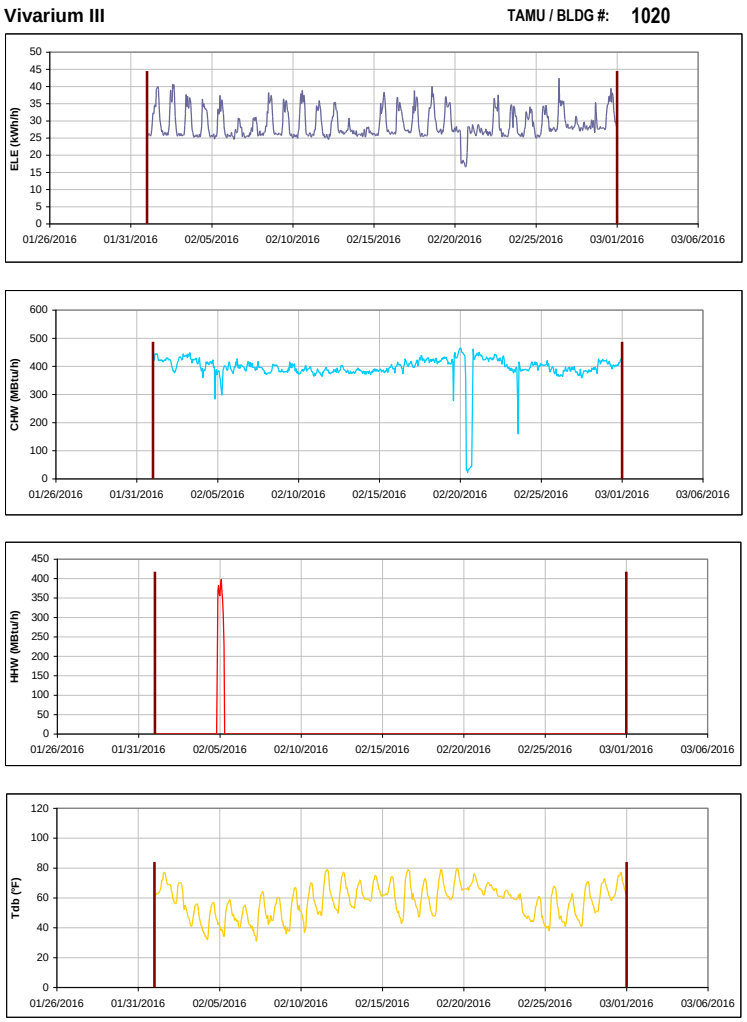


Figure III-120 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Vivarium III during the Month of TSPlots and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

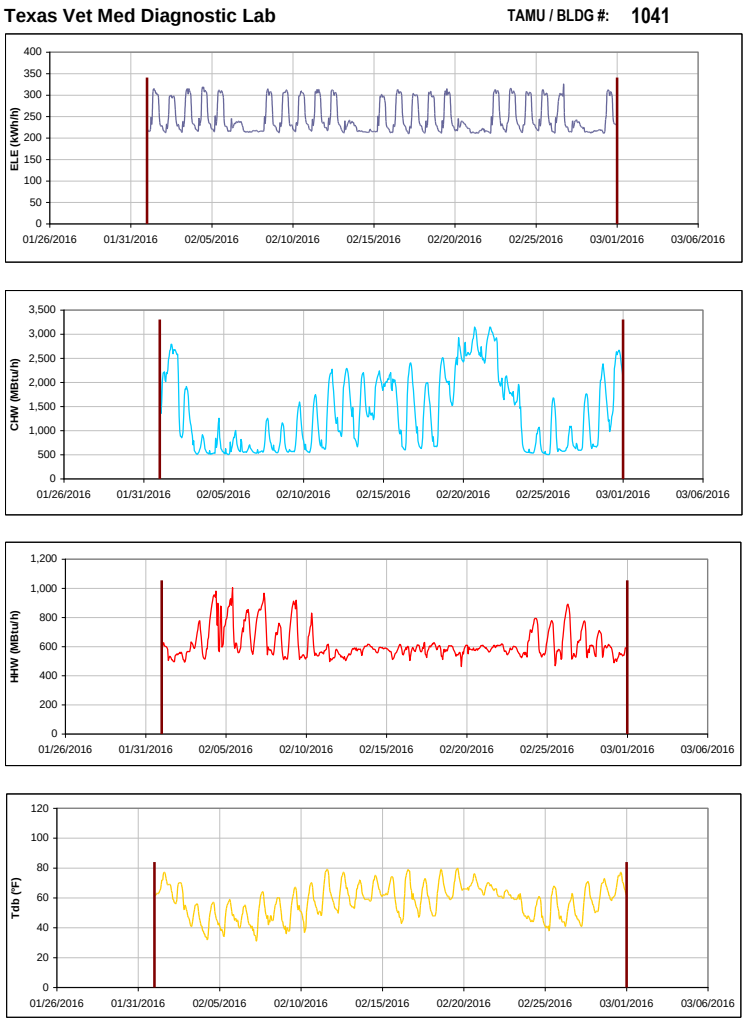


Figure III-121 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Texas Vet Med Diagnostic Lab during the Month of TSPlots and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

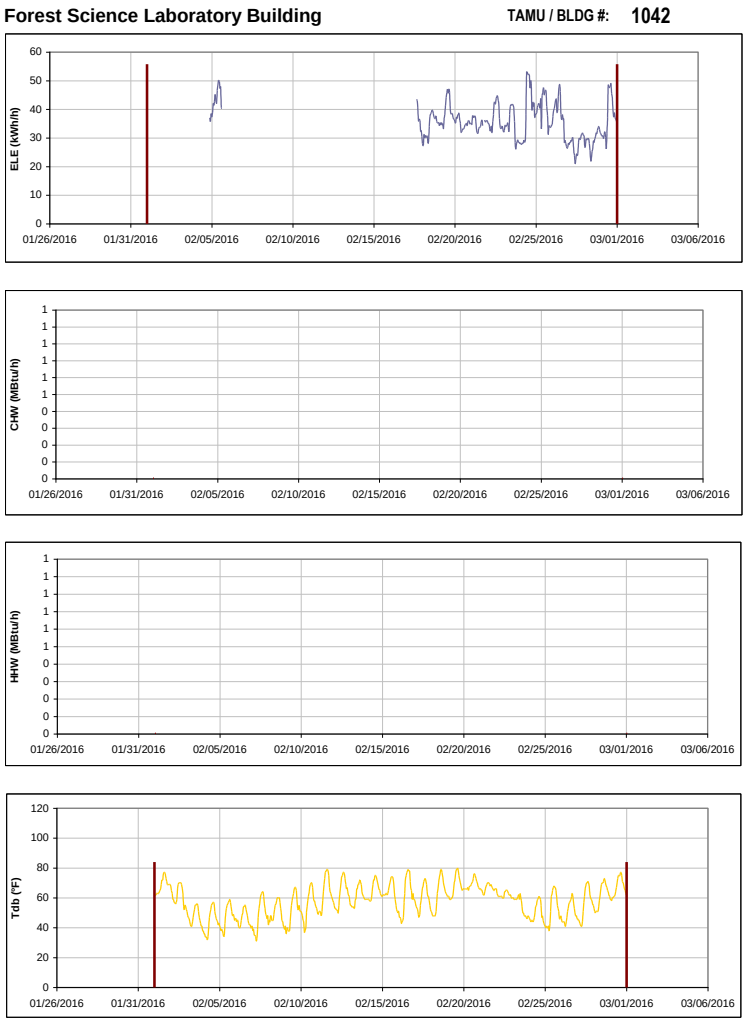


Figure III-122 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Forest Science Laboratory Building during the Month of TSPlots and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

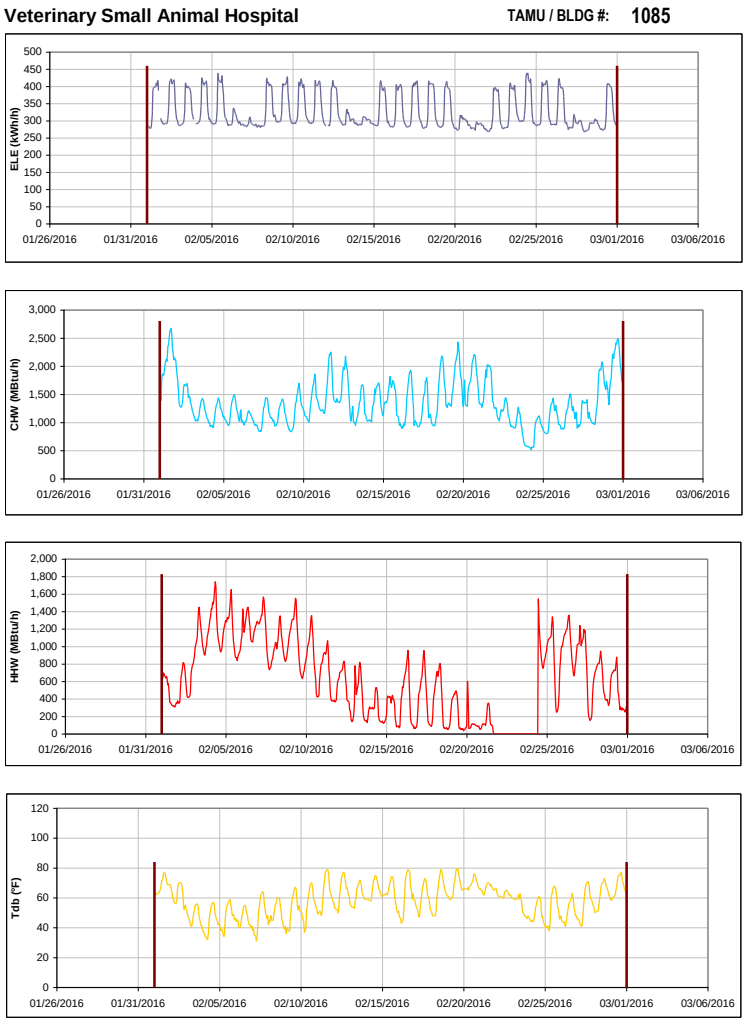


Figure III-123 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Veterinary Small Animal Hospital during the Month of TSPlots and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

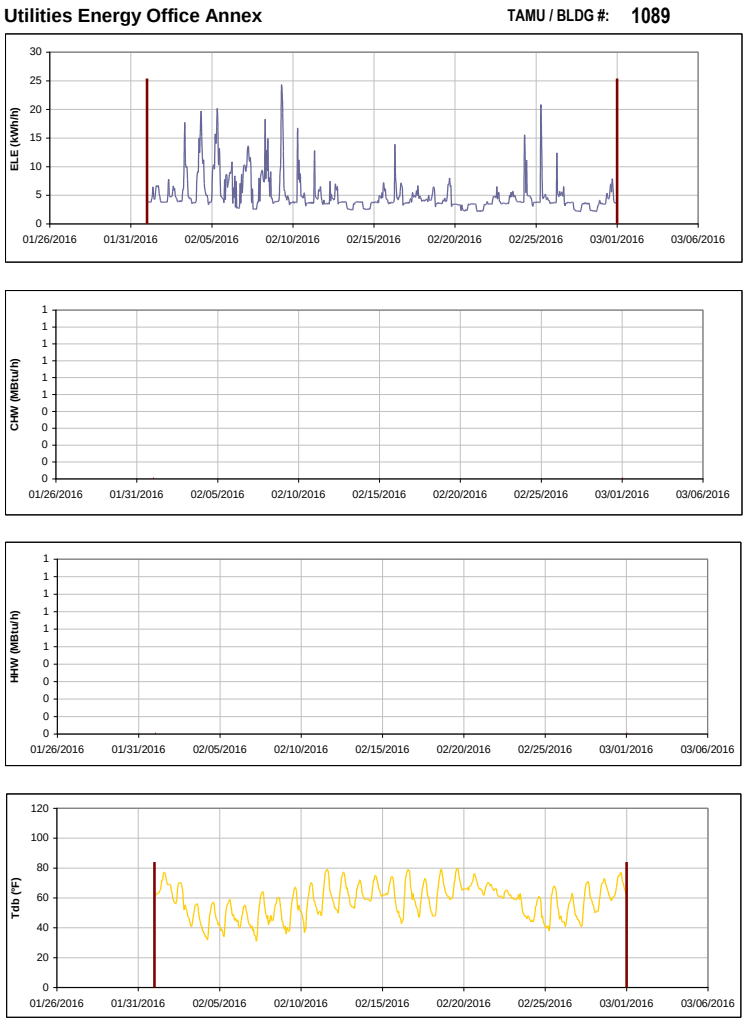


Figure III-124 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Utilities Energy Office Annex during the Month of TSPlots and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

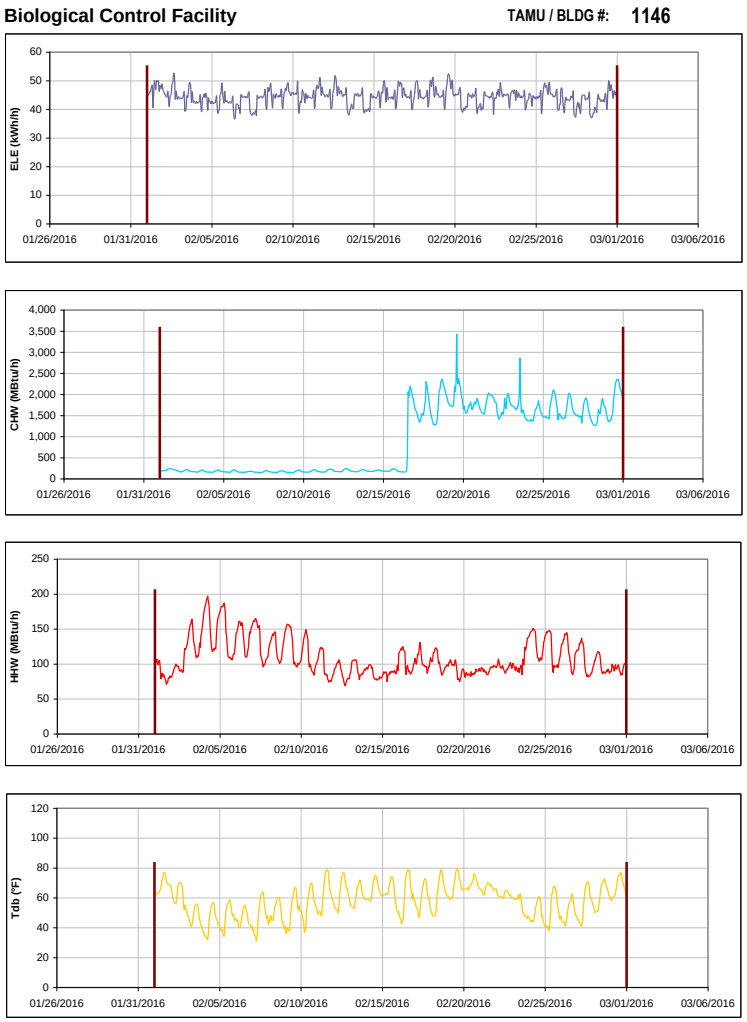


Figure III-125 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Biological Control Facility during the Month of TSPlots and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

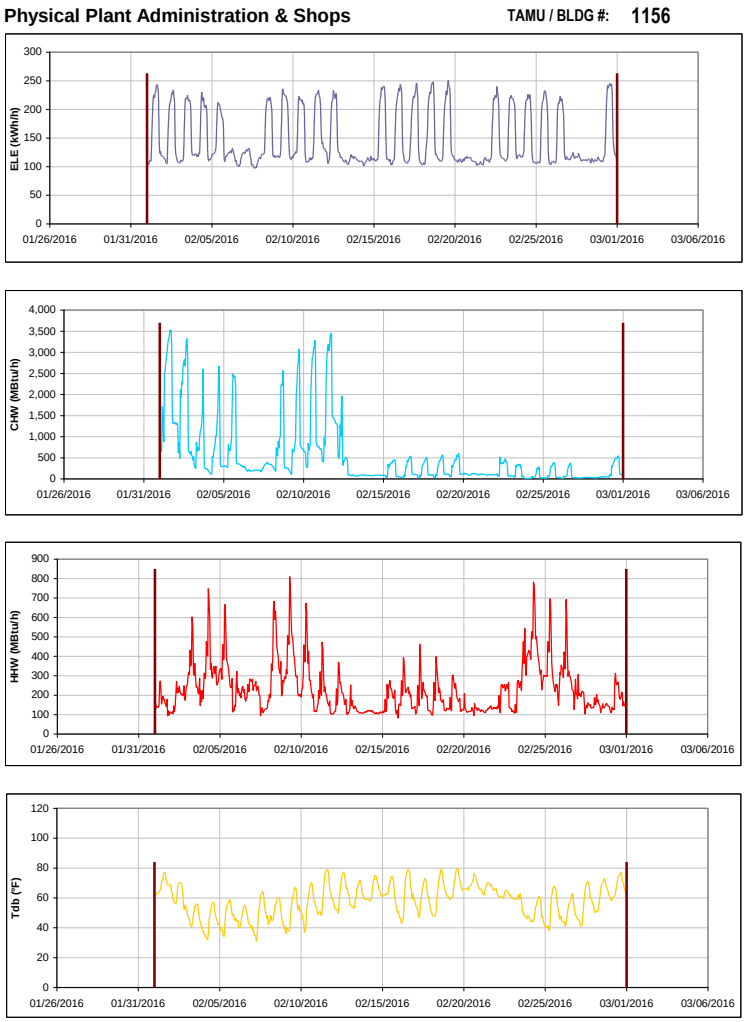


Figure III-126 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Physical Plant Administration & Shops during the Month of TSPlots and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

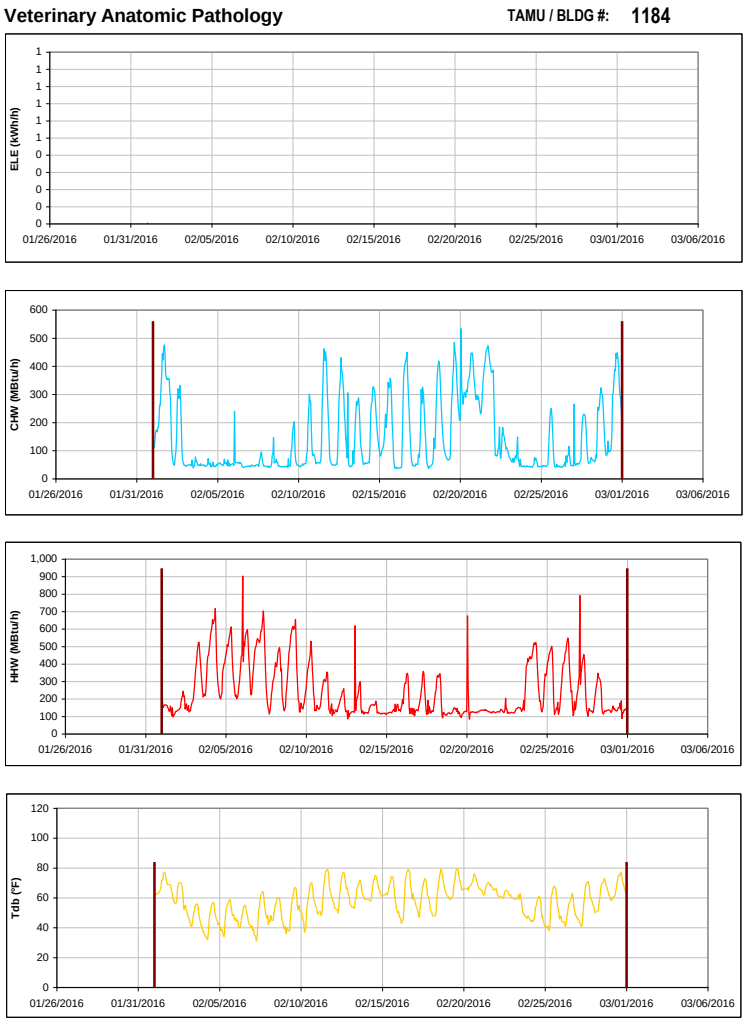


Figure III-127 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Veterinary Anatomic Pathology during the Month of TSPlots and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

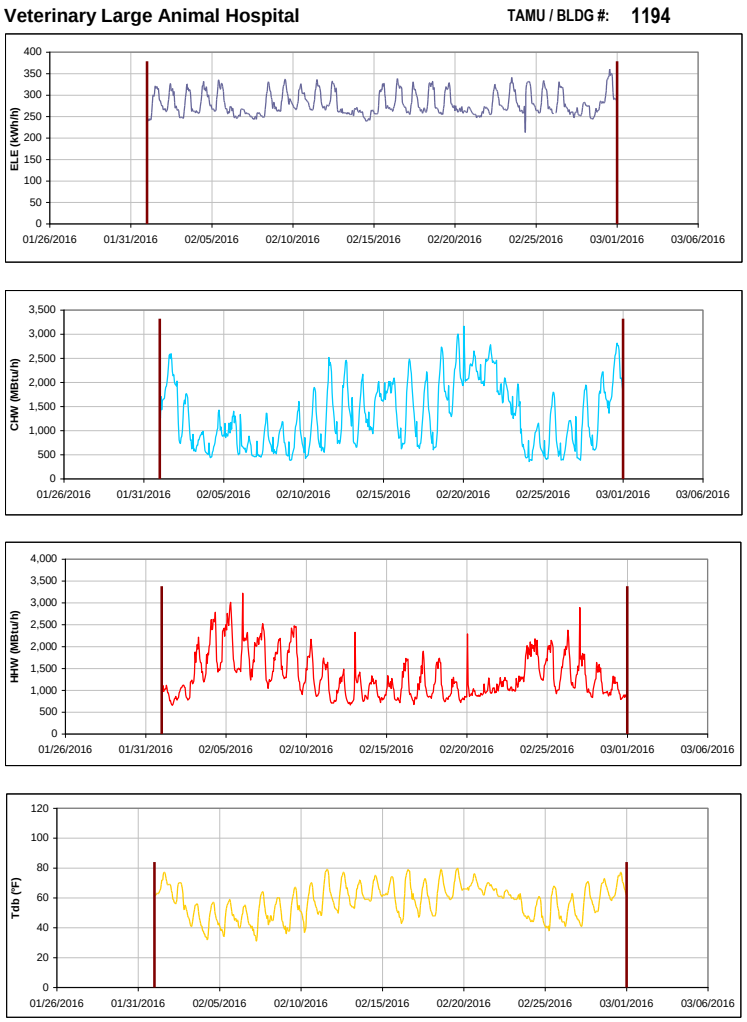


Figure III-128 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Veterinary Large Animal Hospital during the Month of TSPlots and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

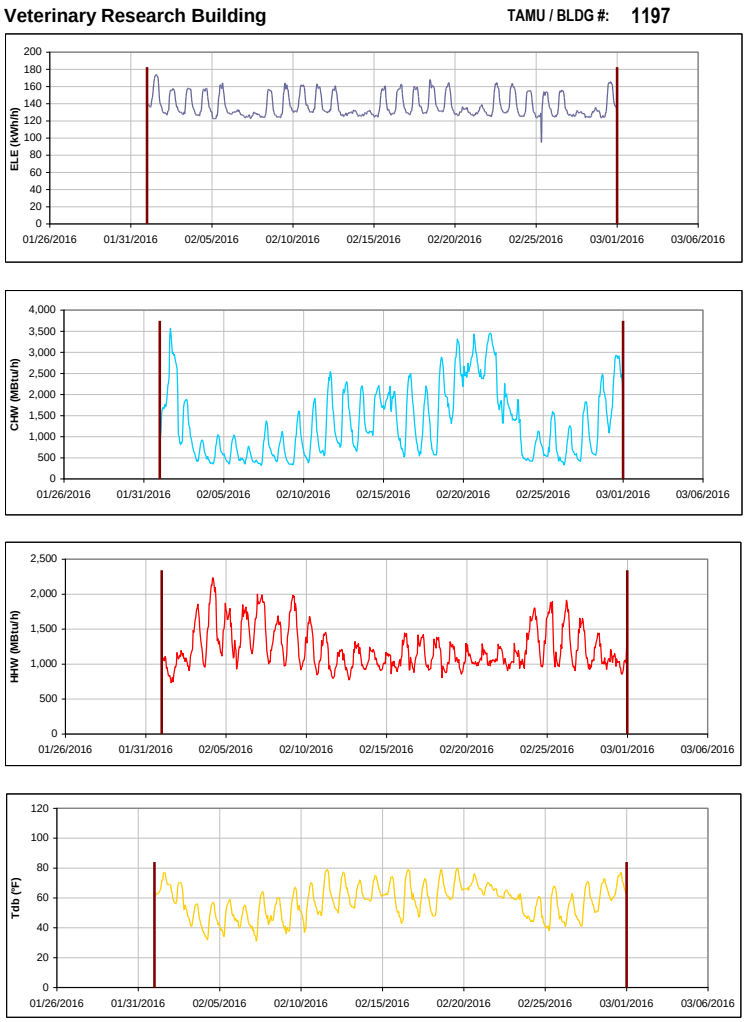


Figure III-129 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Veterinary Research Building during the Month of TSPlots and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

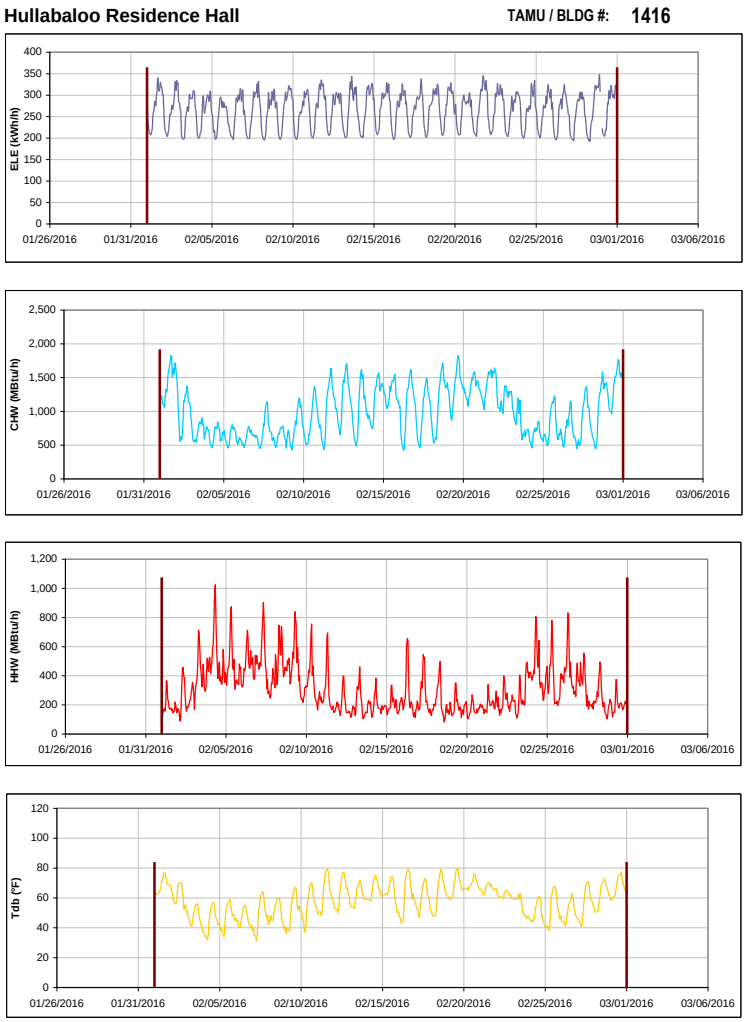


Figure III-130 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Hullabaloo Residence Hall during the Month of TSPlots and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

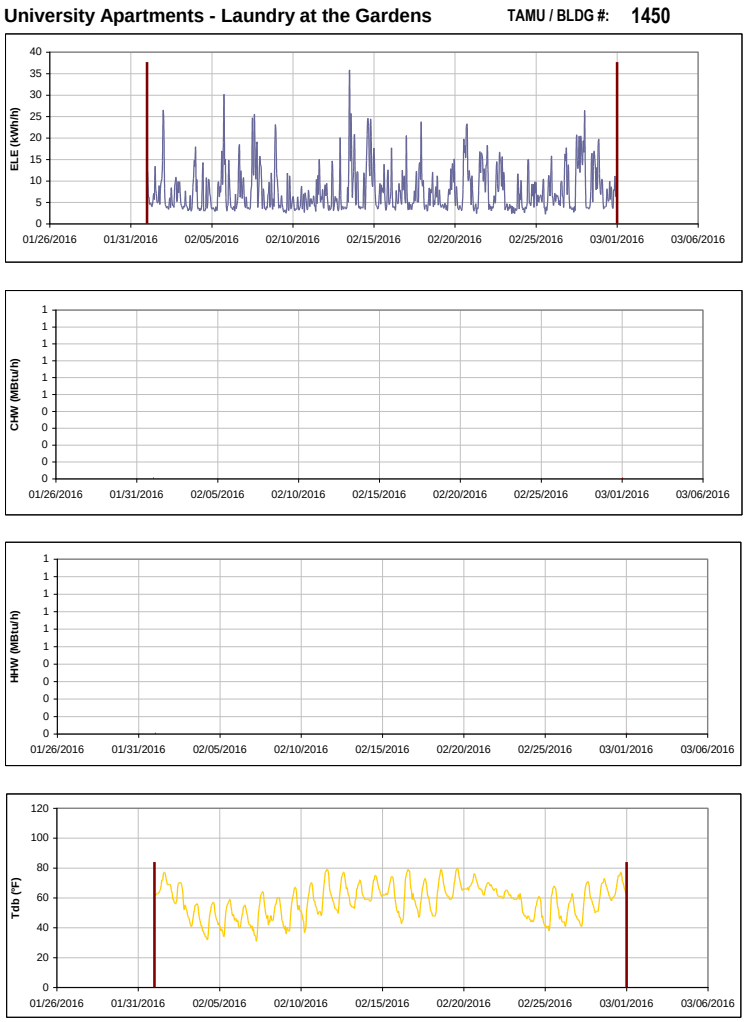


Figure III-131 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for University Apartments - Laundry at the Gardens during the Month of TSPlots and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

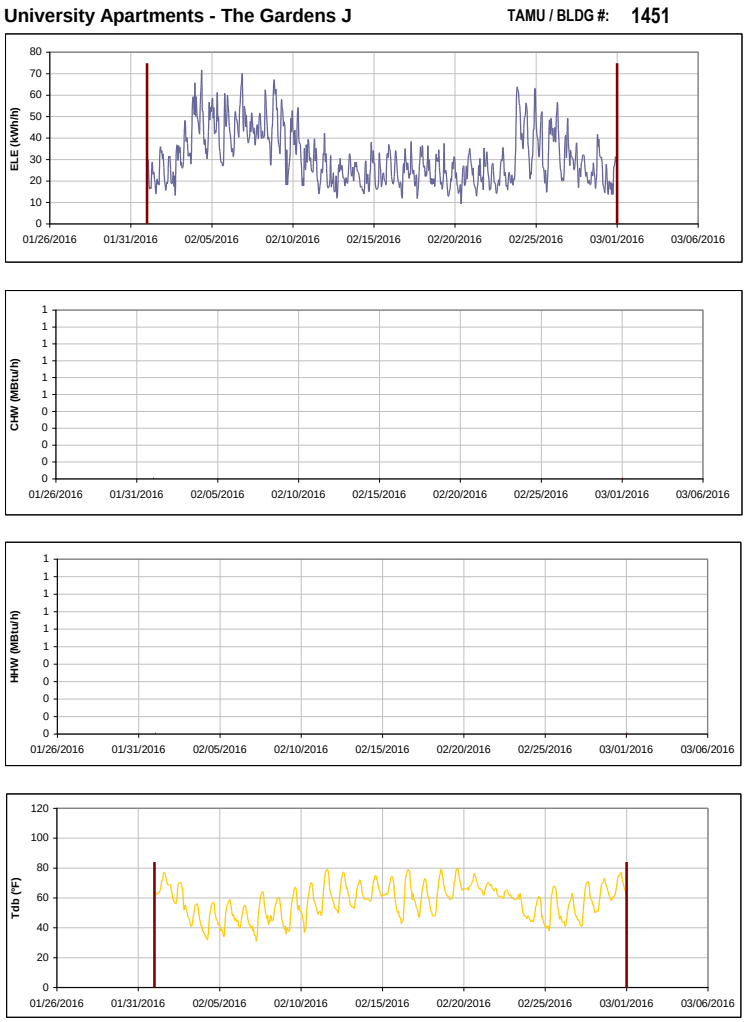


Figure III-132 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for University Apartments - The Gardens J during the Month of TSPlots and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

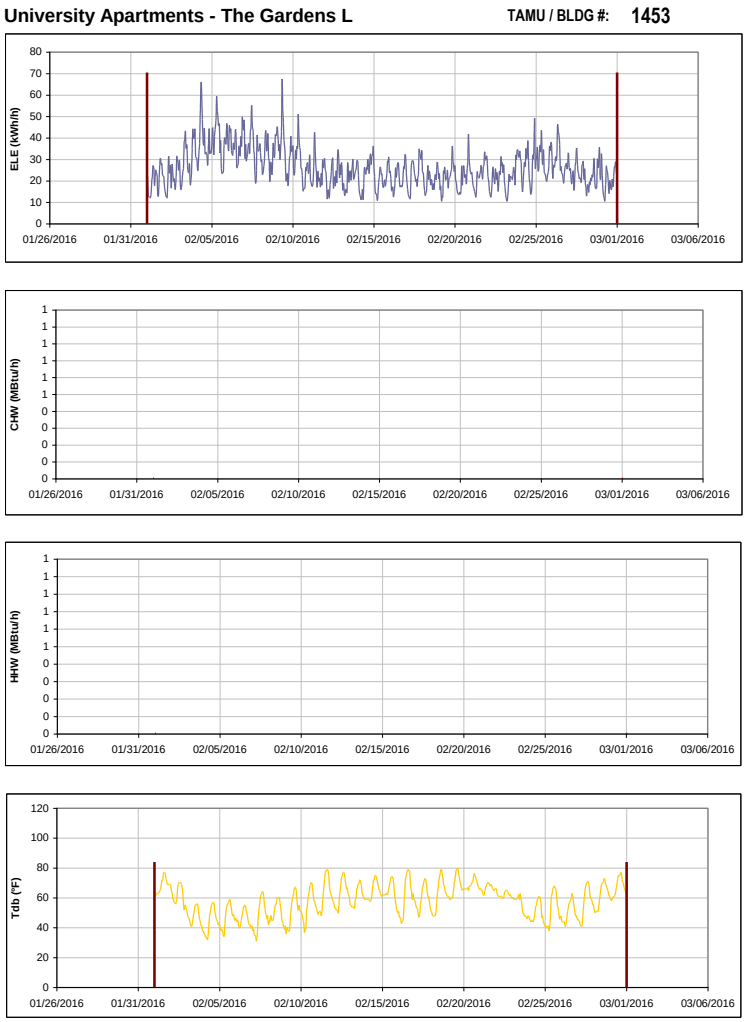


Figure III-133 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for University Apartments - The Gardens L during the Month of TSPlots and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

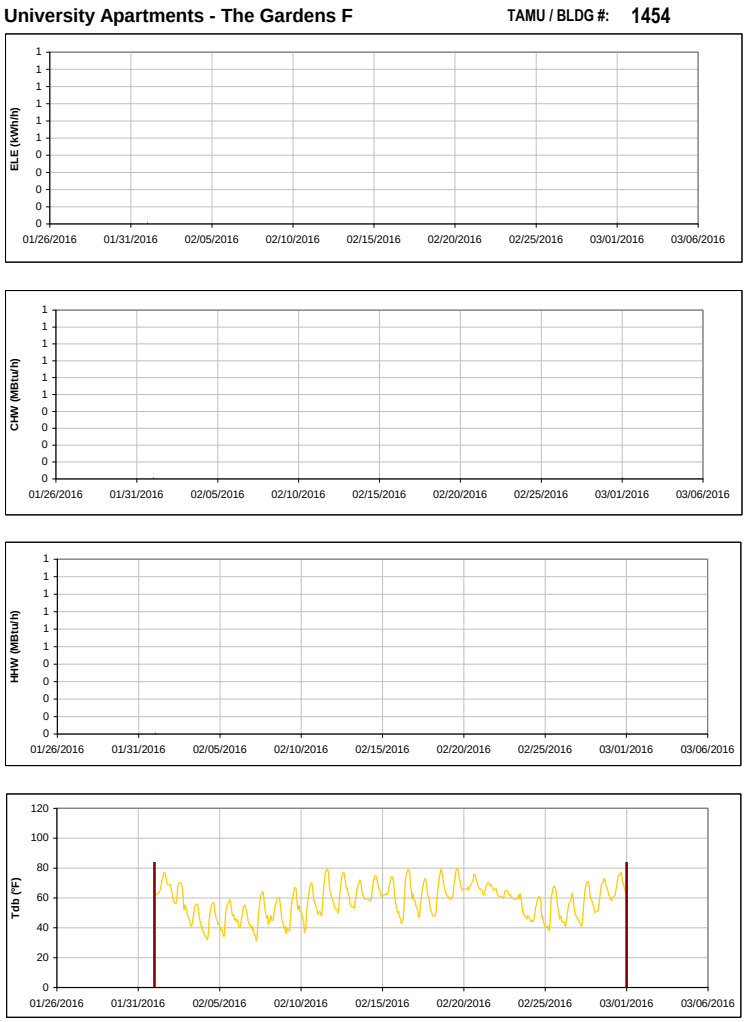


Figure III-134 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for University Apartments - The Gardens F during the Month of TSPlots and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

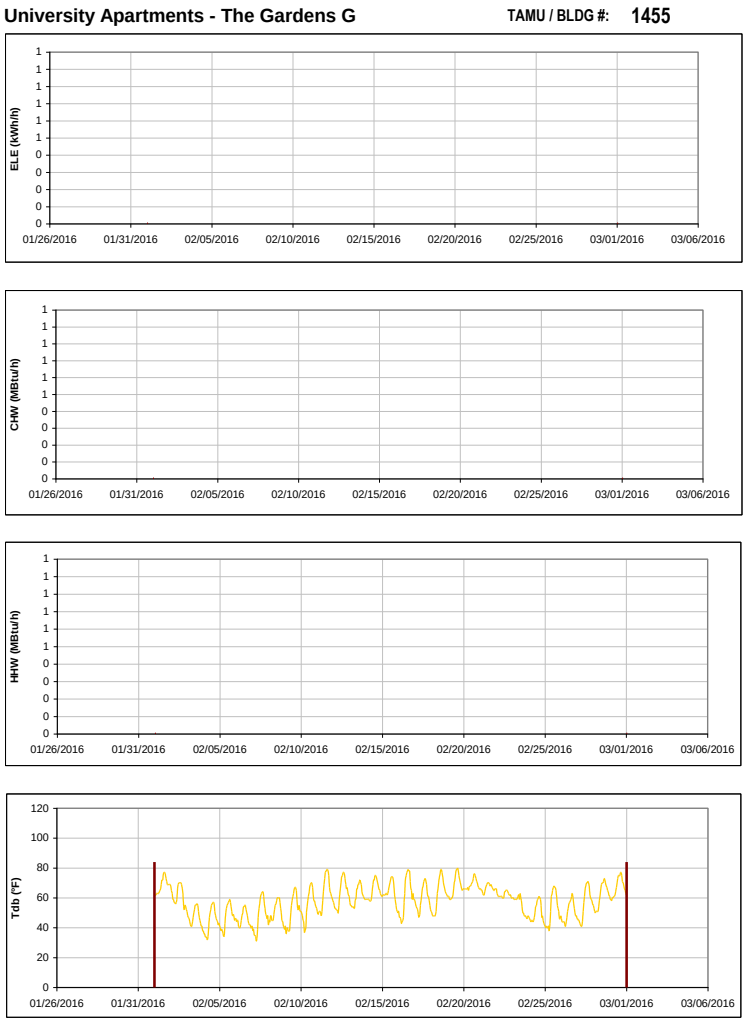


Figure III-135 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for University Apartments - The Gardens G during the Month of TSPlots and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

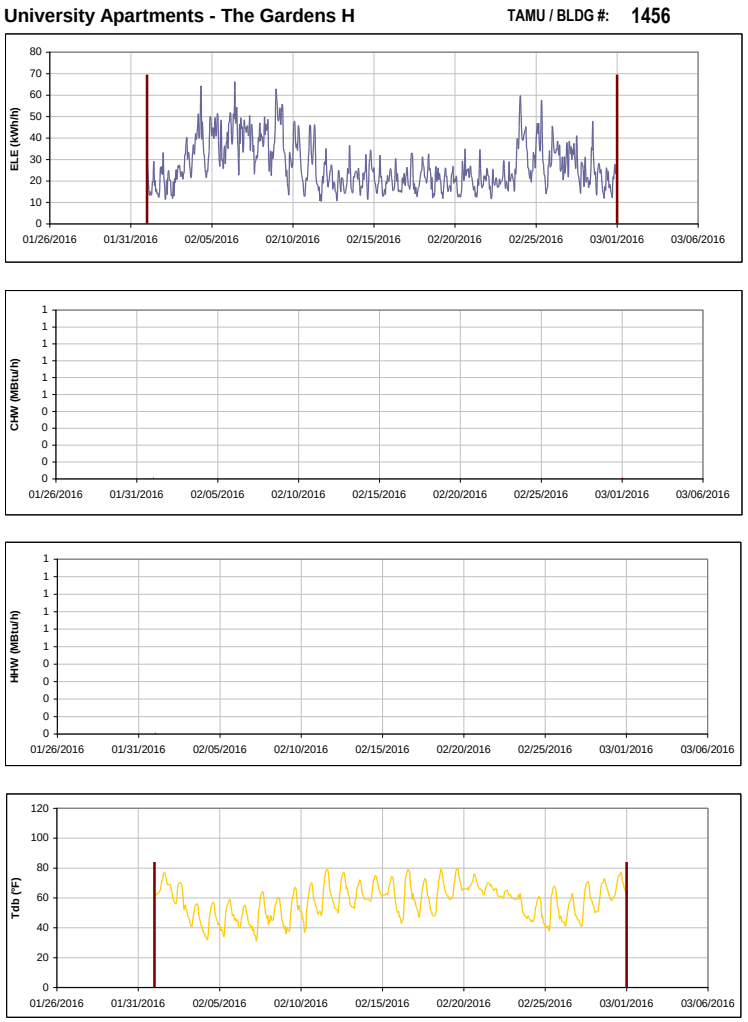


Figure III-136 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for University Apartments - The Gardens H during the Month of TSPlots and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

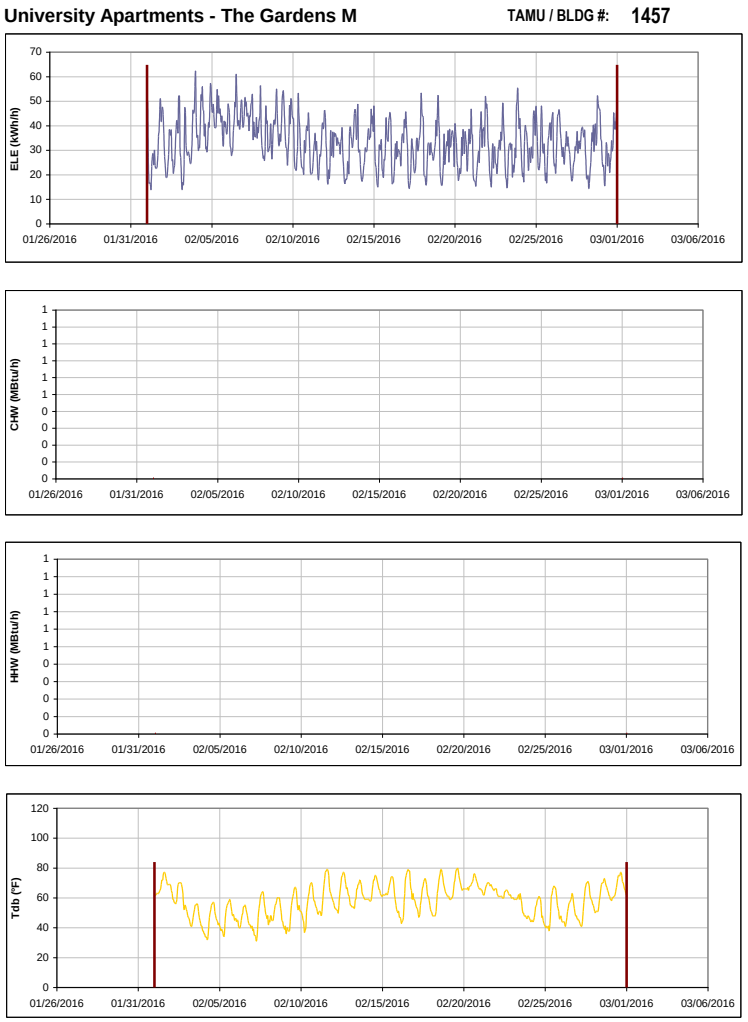


Figure III-137 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for University Apartments - The Gardens M during the Month of TSPlots and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

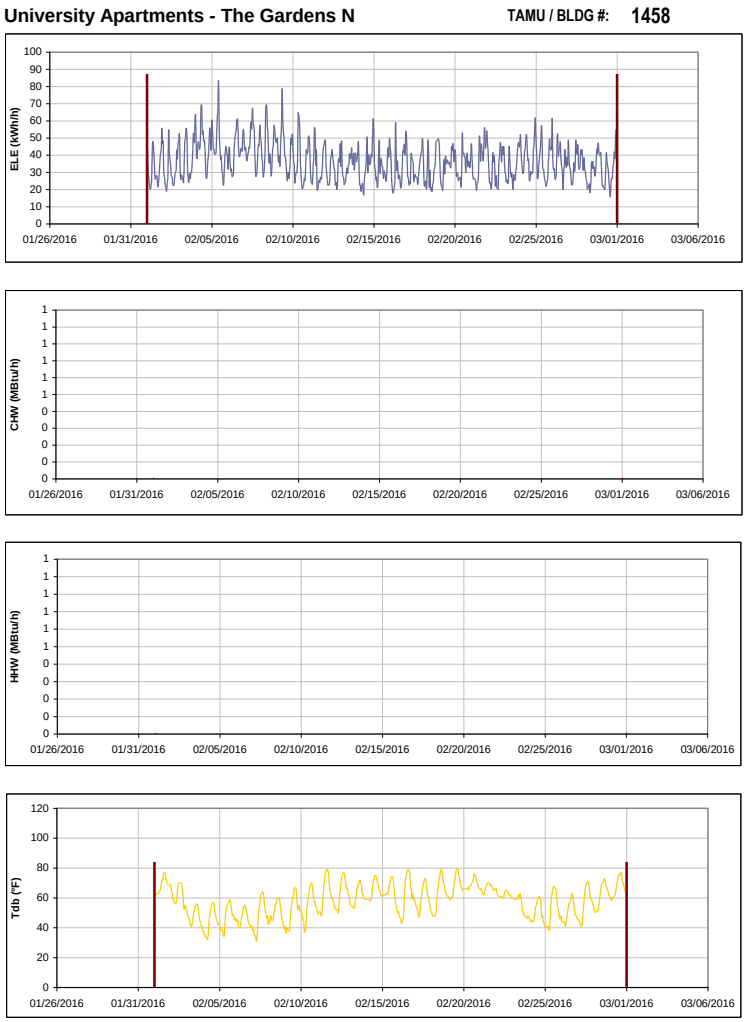


Figure III-138 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for University Apartments - The Gardens N during the Month of TSPlots and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

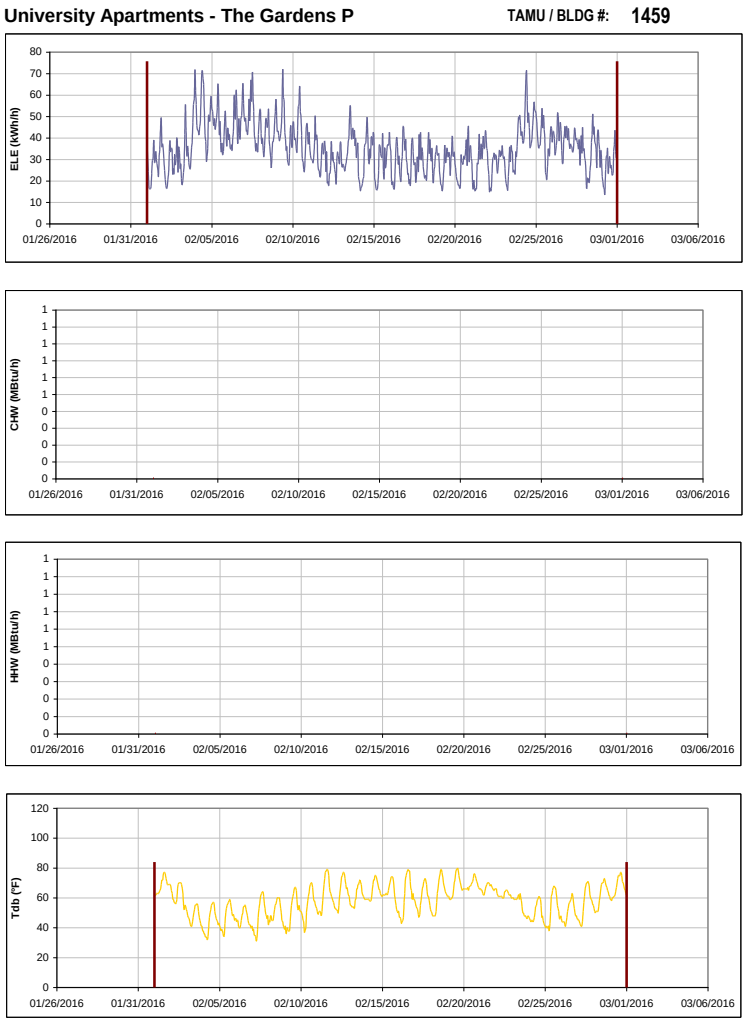


Figure III-139 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for University Apartments - The Gardens P during the Month of TSPlots and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

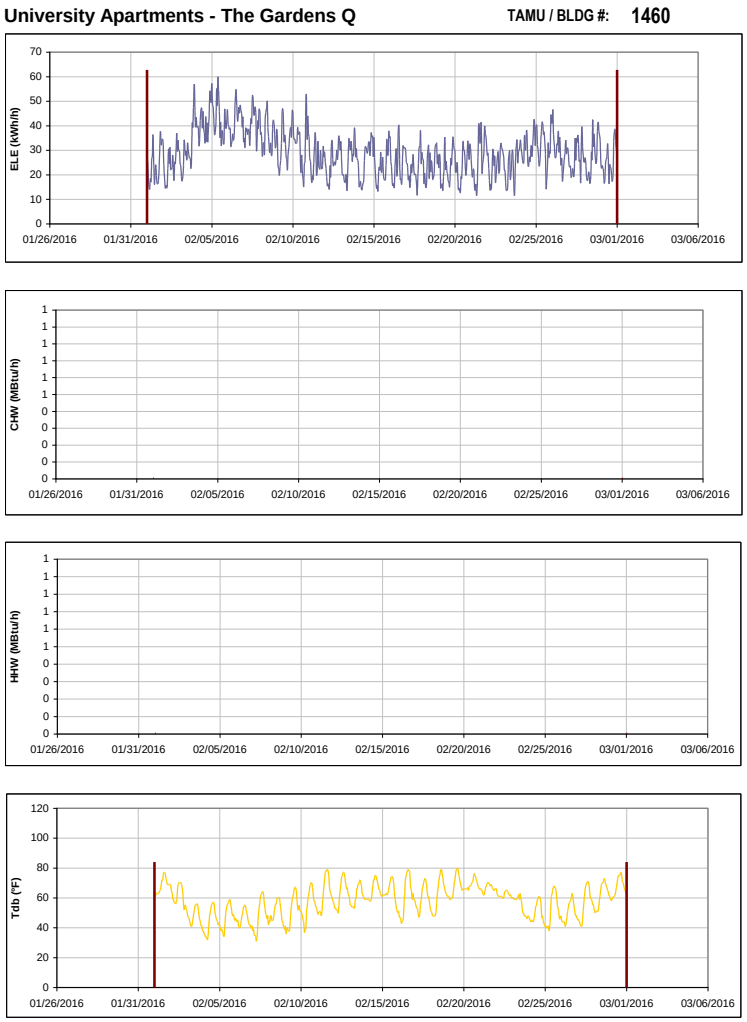


Figure III-140 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for University Apartments - The Gardens Q during the Month of TSPlots and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

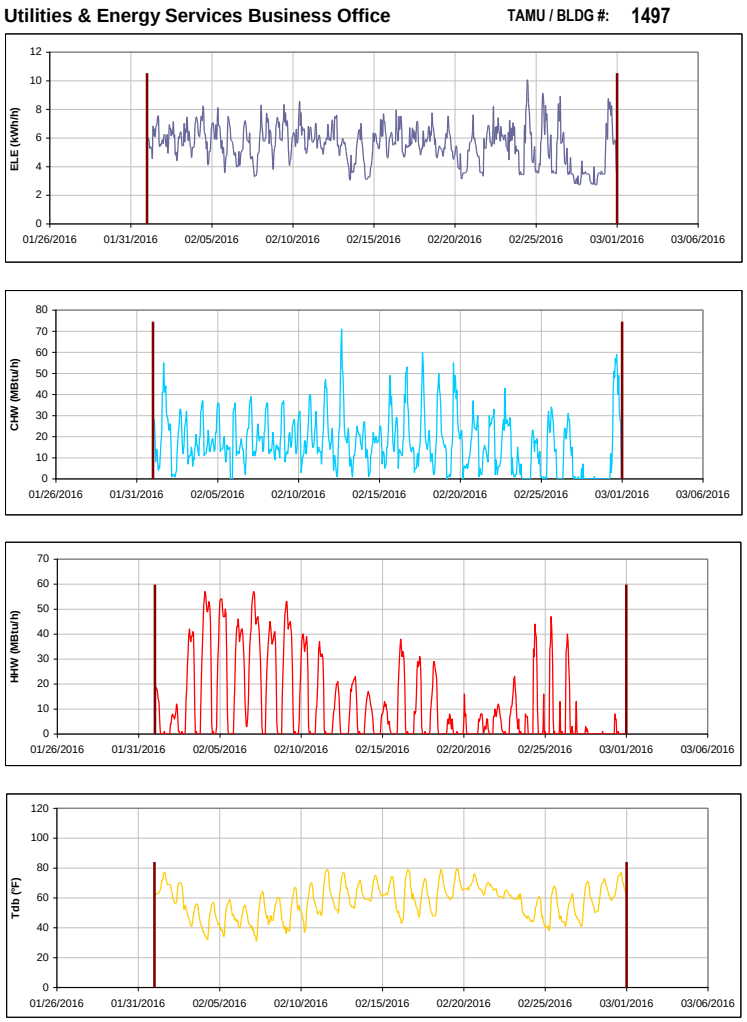


Figure III-141 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Utilities & Energy Services Business Office during the Month of TSPlots and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

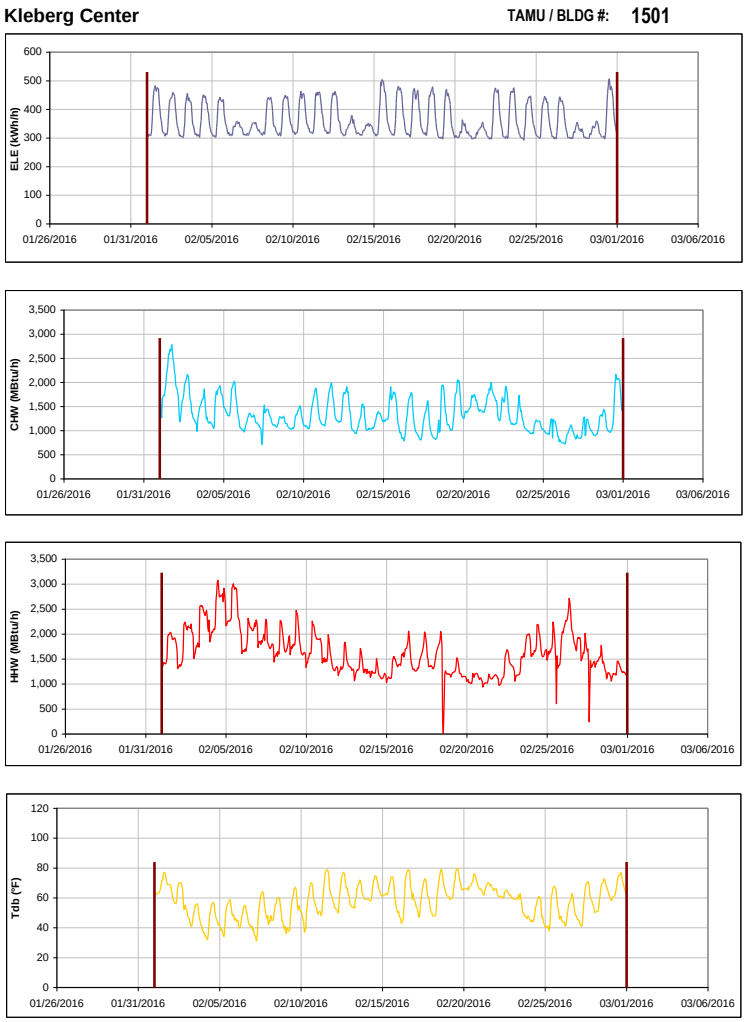


Figure III-142 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Kleberg Center during the Month of TSPlots and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

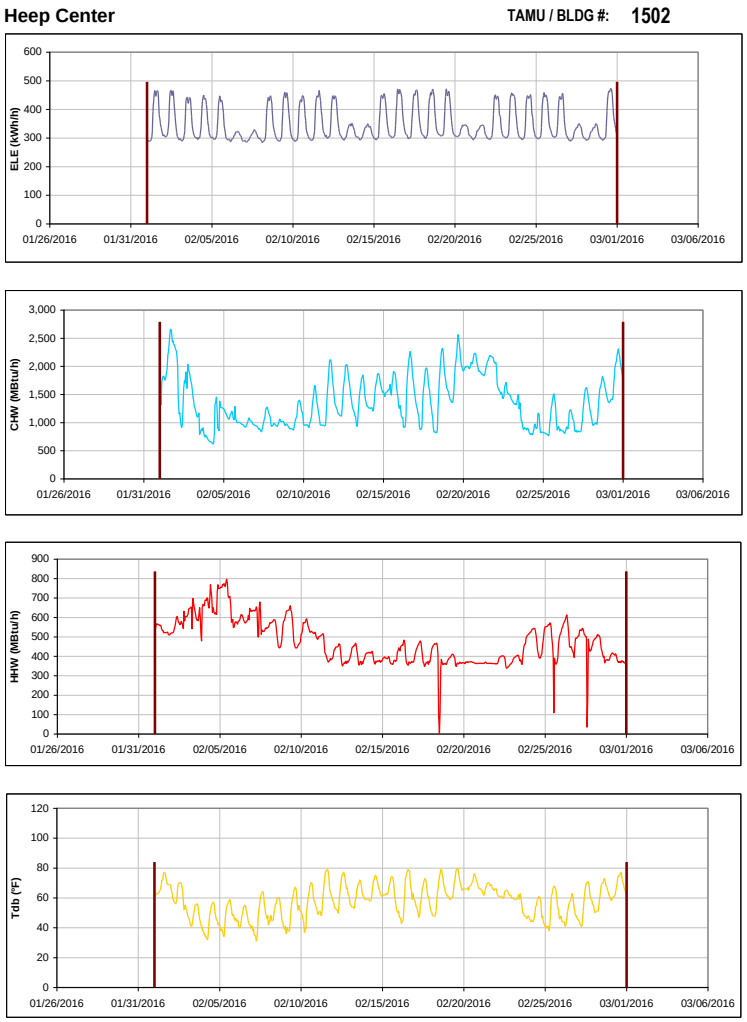


Figure III-143 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Heep Center during the Month of TSPlots and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

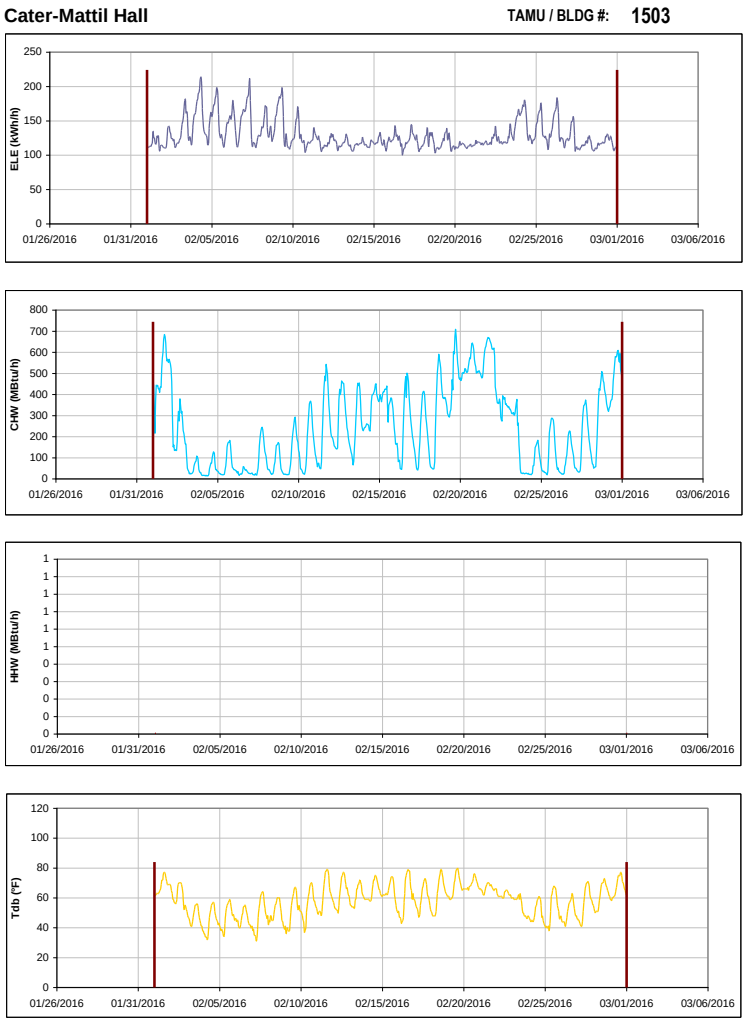


Figure III-144 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Cater-Mattil Hall during the Month of TSPlots and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

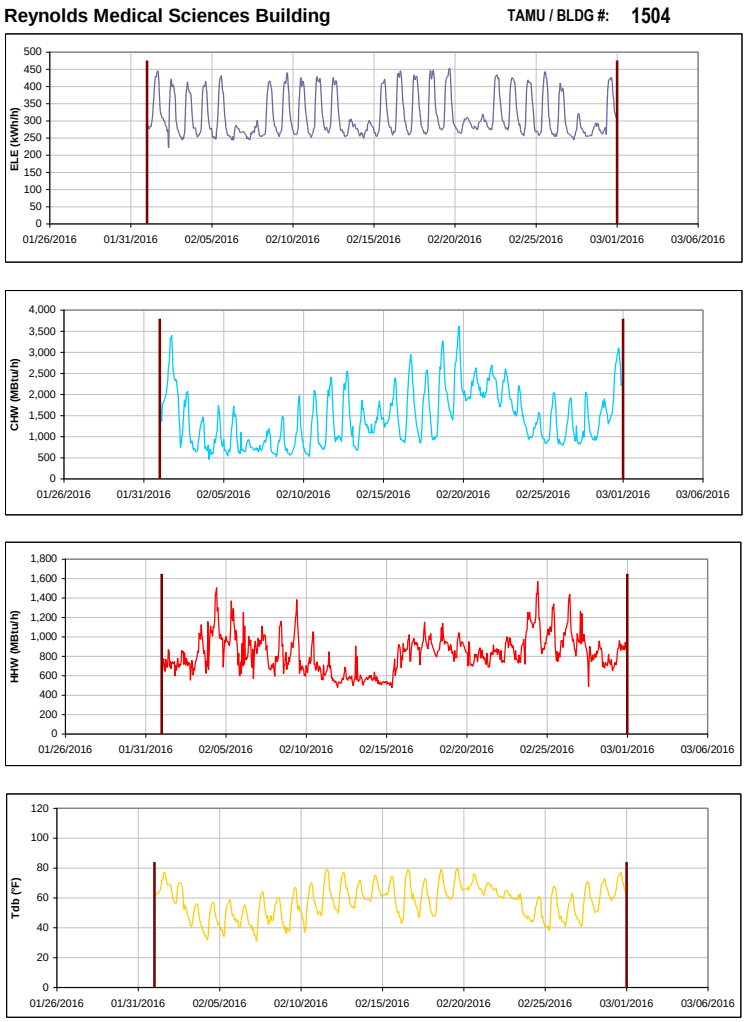


Figure III-145 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Reynolds Medical Sciences Building during the Month of TSPlots and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

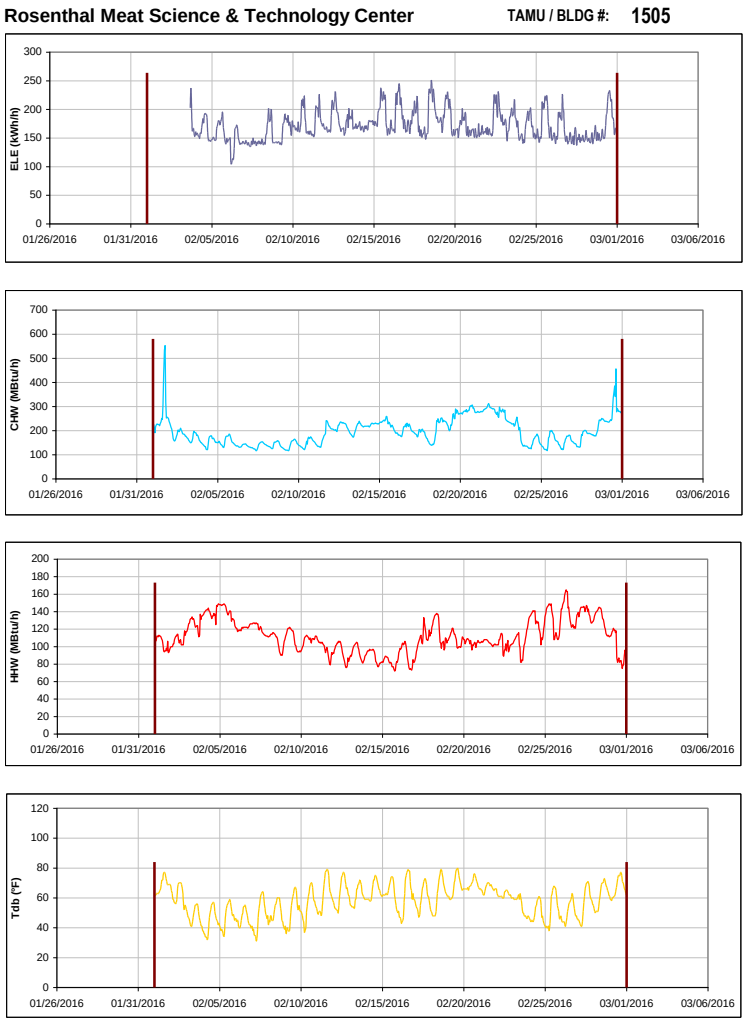


Figure III-146 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Rosenthal Meat Science & Technology Center during the Month of TSPlots and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

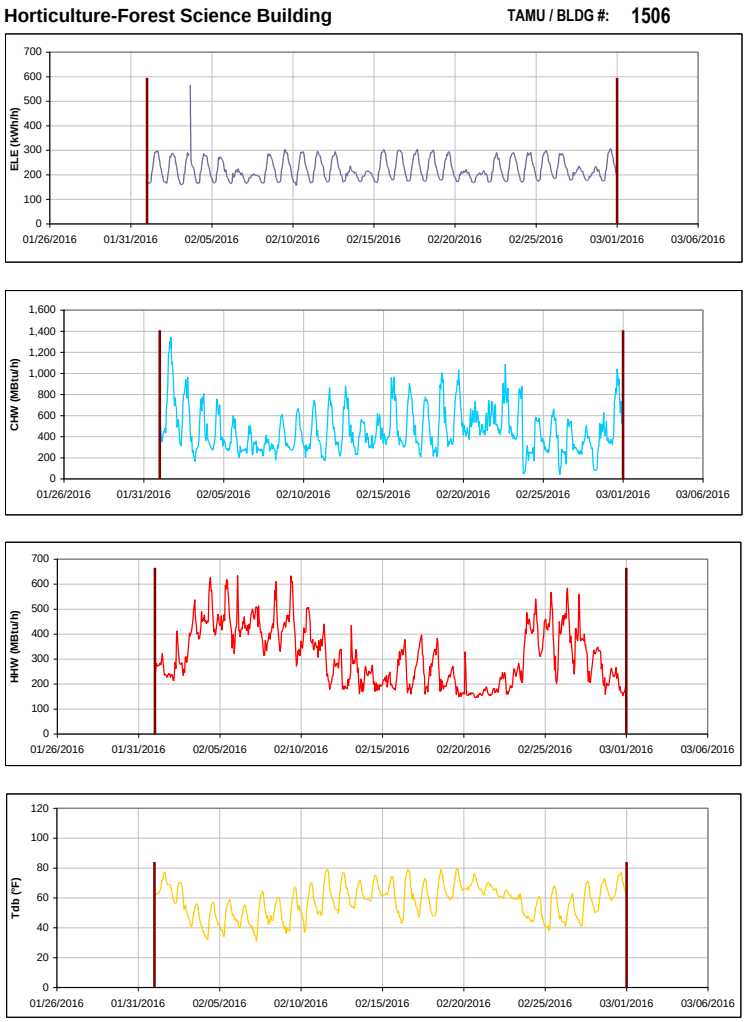


Figure III-147 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Horticulture-Forest Science Building during the Month of TSPlots and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

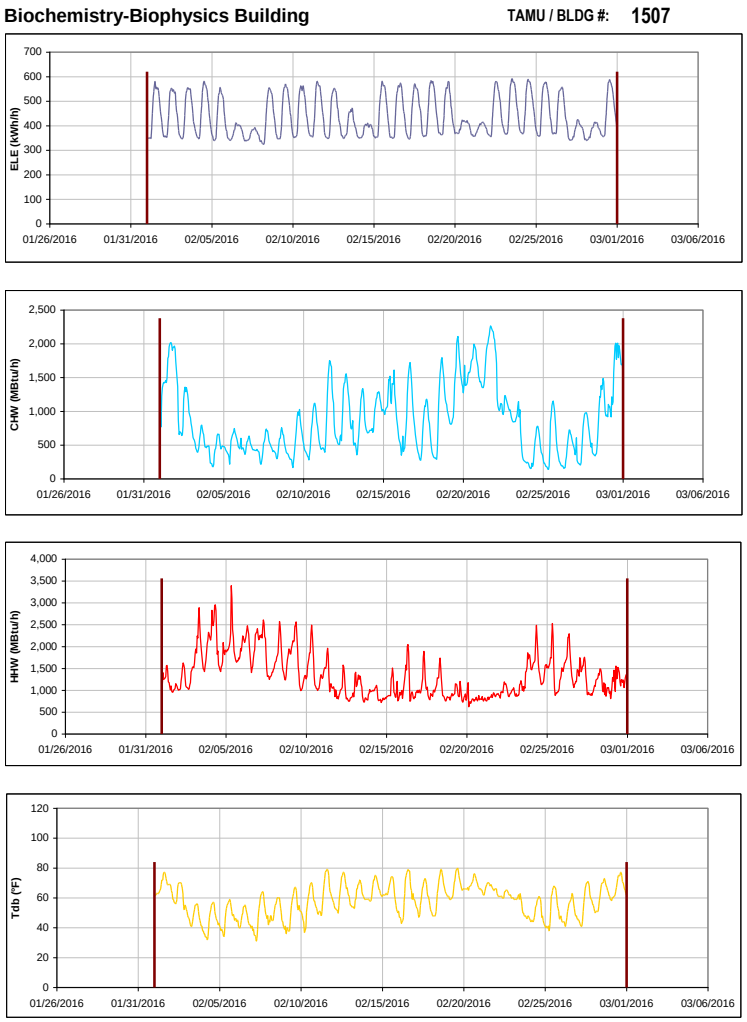


Figure III-148 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Biochemistry-Biophysics Building during the Month of TSPlots and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

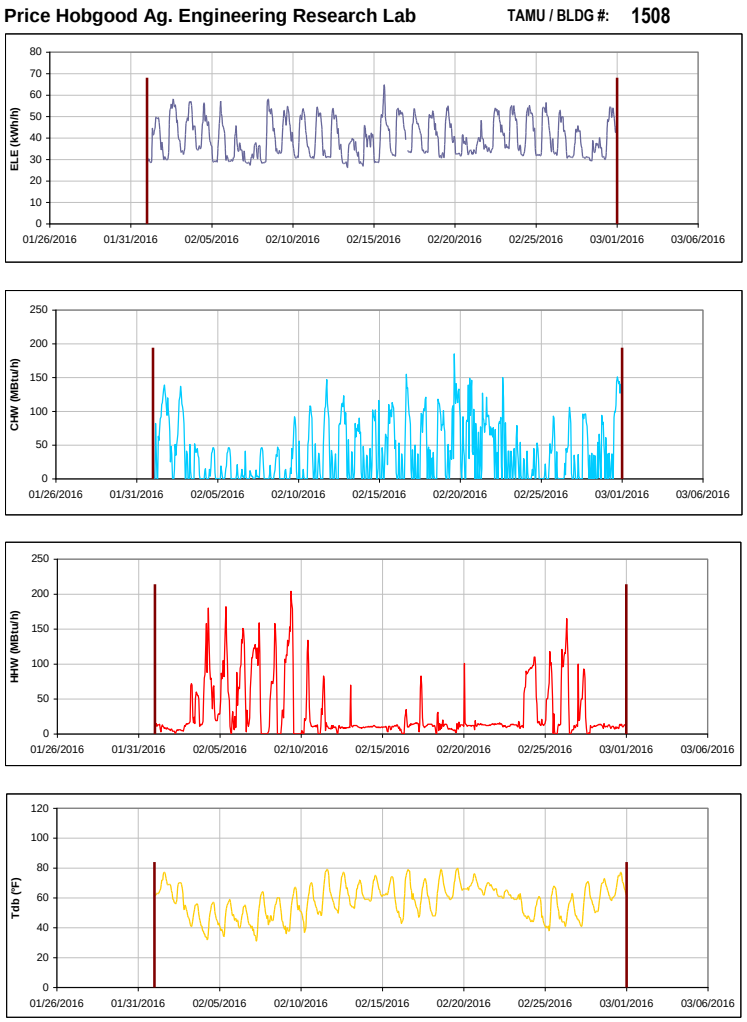


Figure III-149 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Price Hobgood Ag. Engineering Research Lab during the Month of TSPlots and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

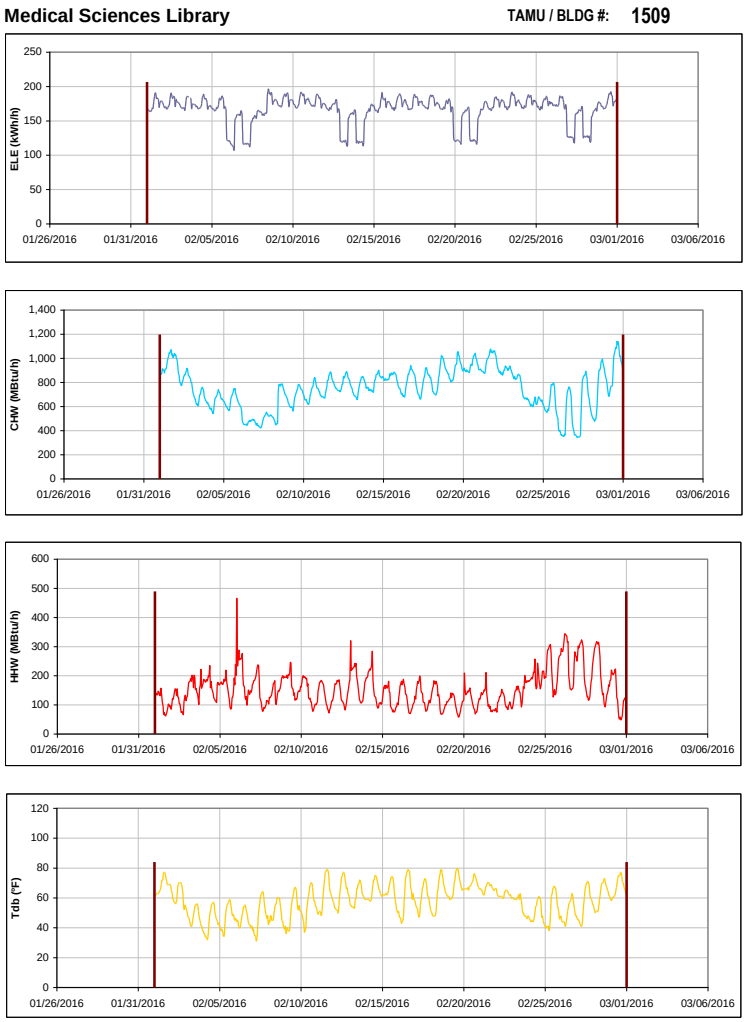


Figure III-150 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Medical Sciences Library during the Month of TSPlots and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

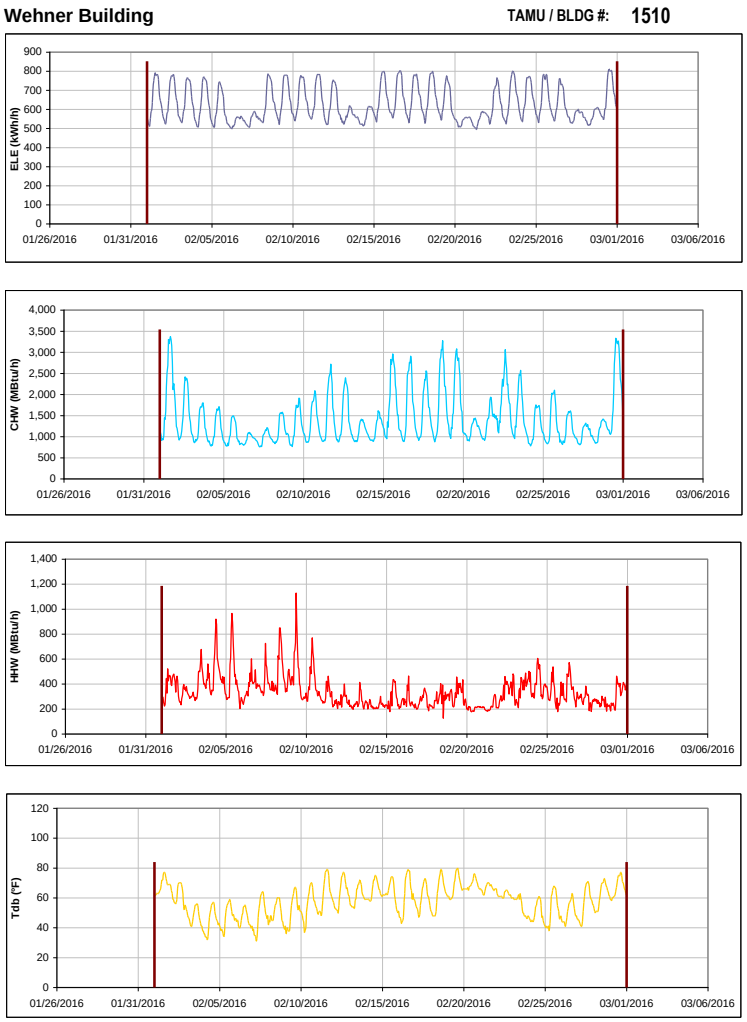


Figure III-151 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Wehner Building during the Month of TSPlots and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

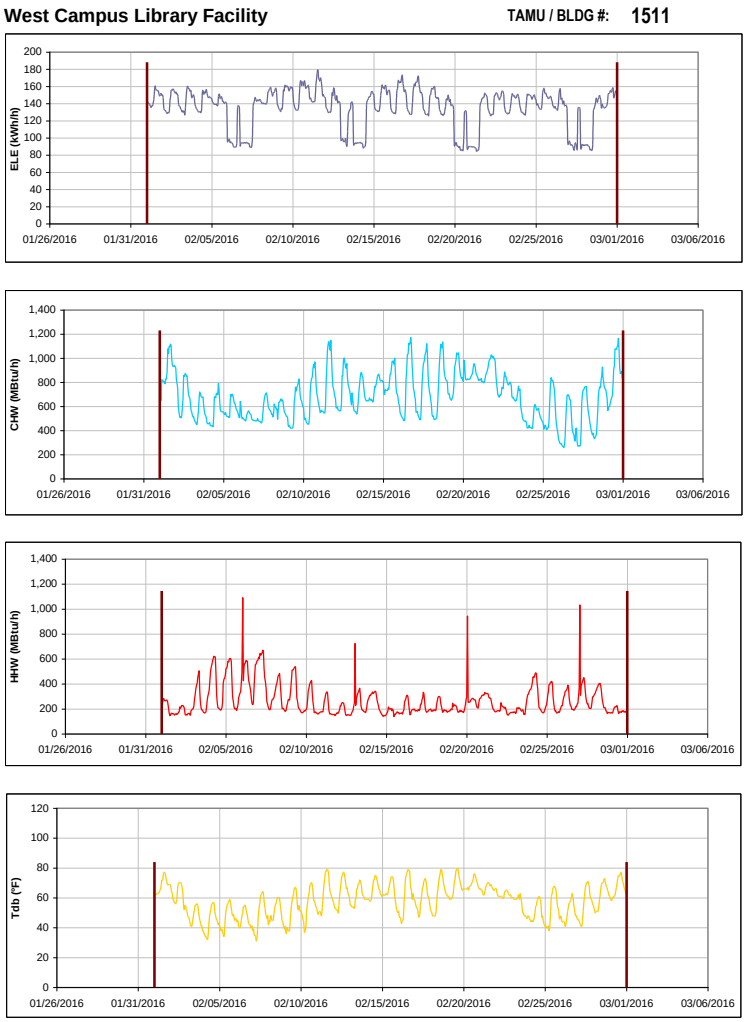


Figure III-152 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for West Campus Library Facility during the Month of TSPlots and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

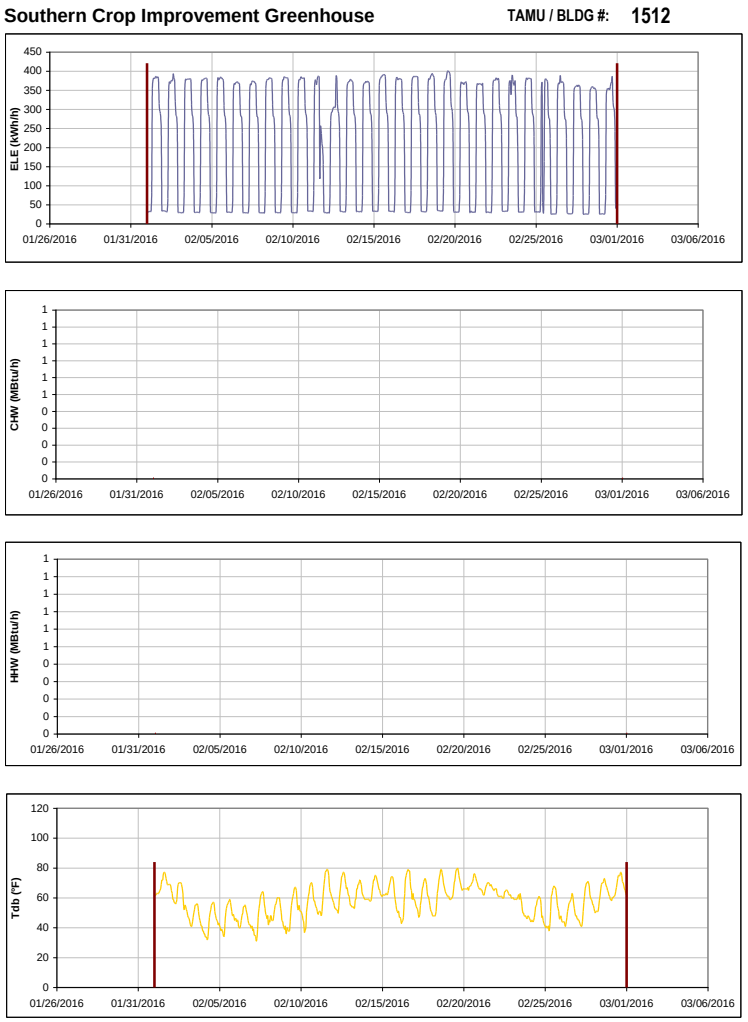


Figure III-153 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Southern Crop Improvement Greenhouse during the Month of TSPlots and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

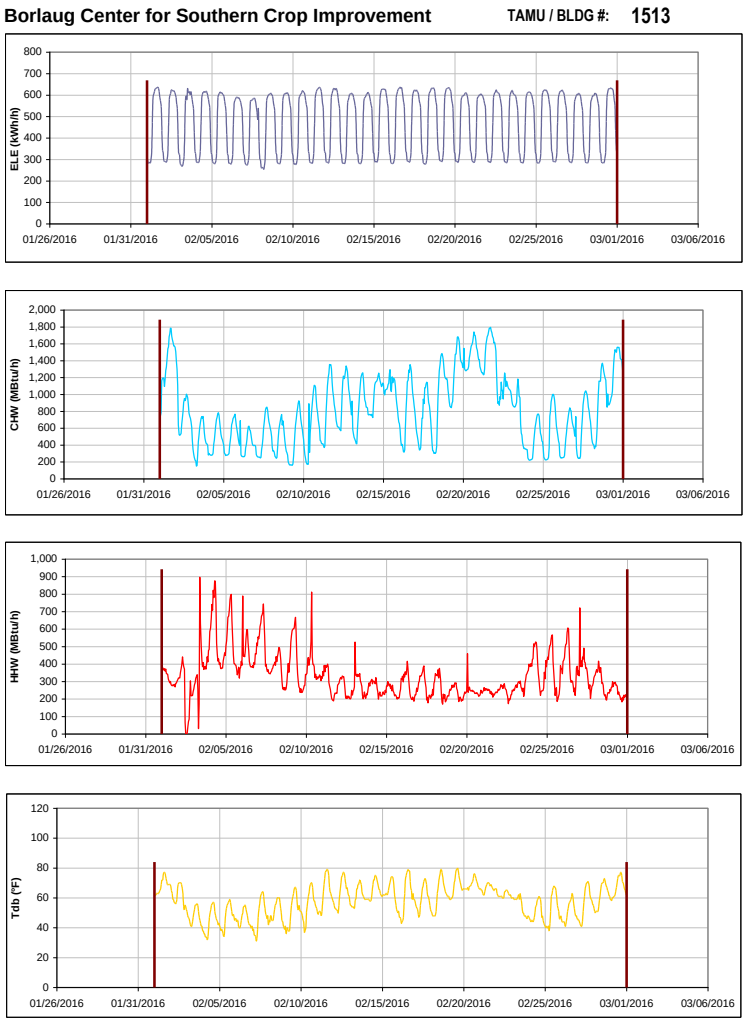


Figure III-154 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Borlaug Center for Southern Crop Improvement during the Month of TSPlots and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

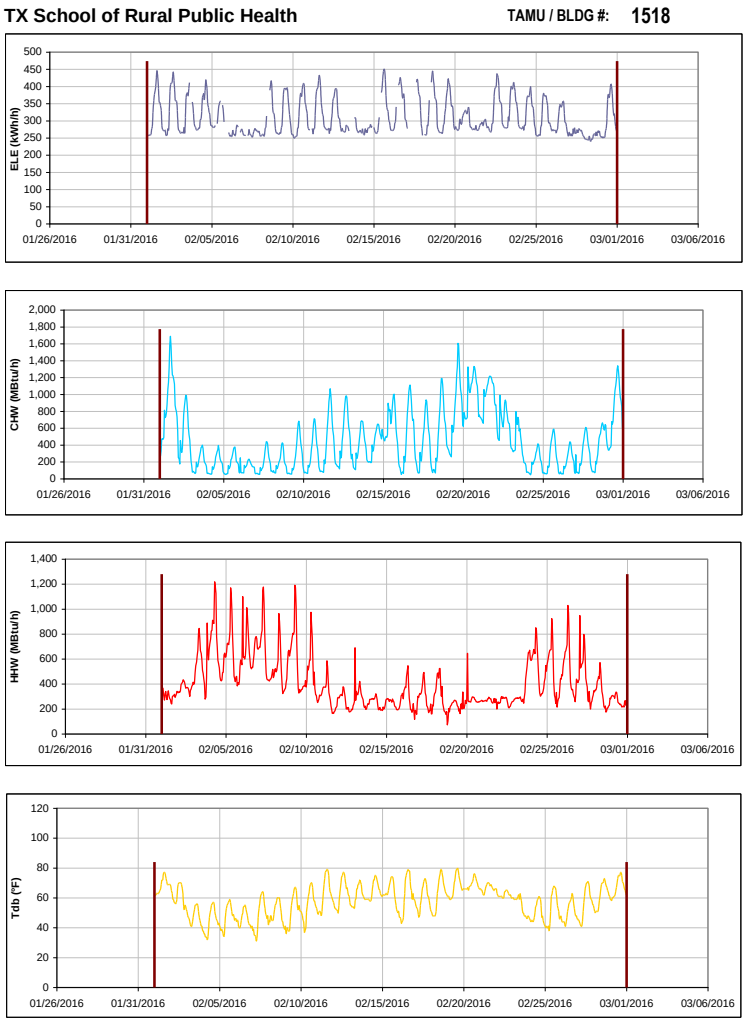


Figure III-155 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for TX School of Rural Public Health during the Month of TSPlots and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

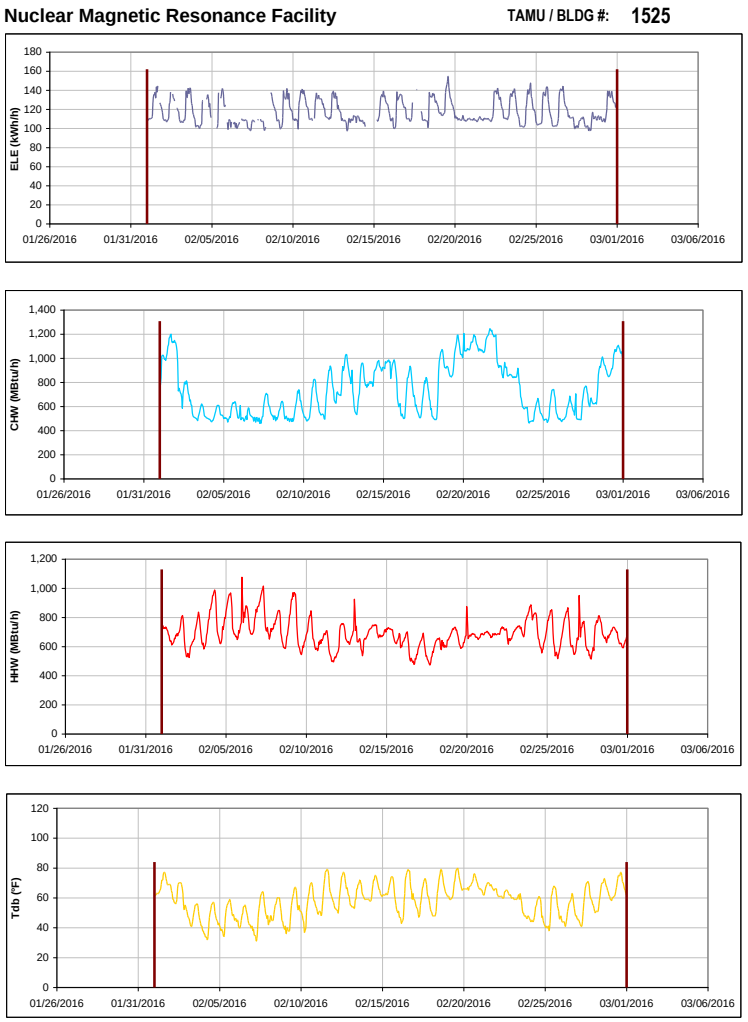


Figure III-156 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Nuclear Magnetic Resonance Facility during the Month of TSPlots and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

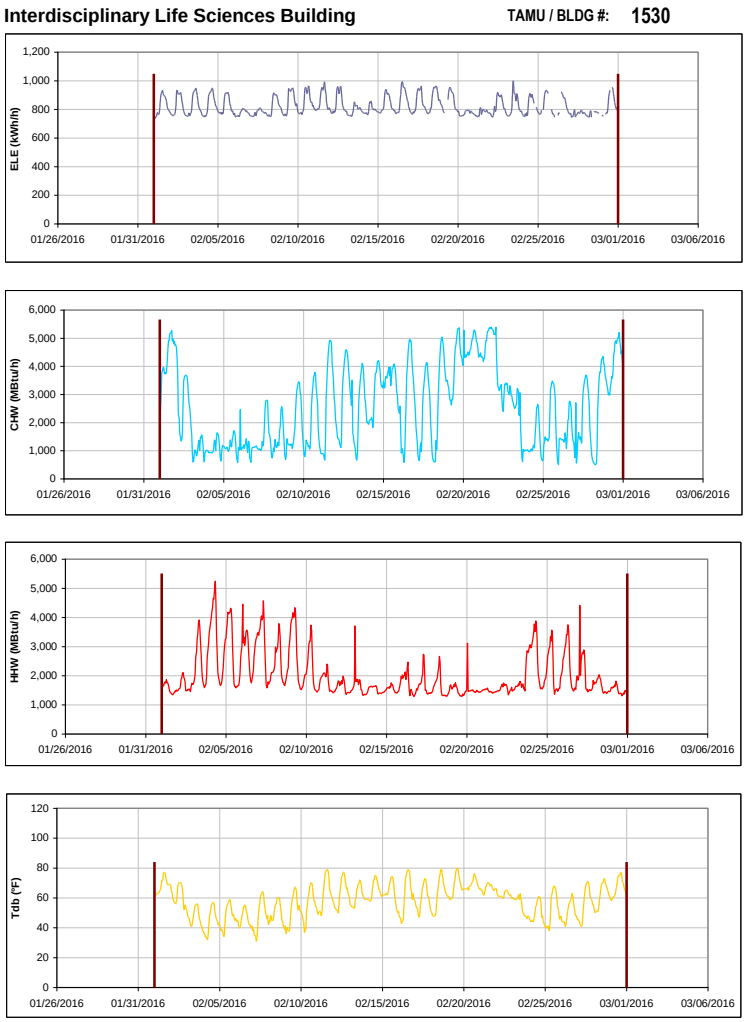


Figure III-157 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Interdisciplinary Life Sciences Building during the Month of TSPlots and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

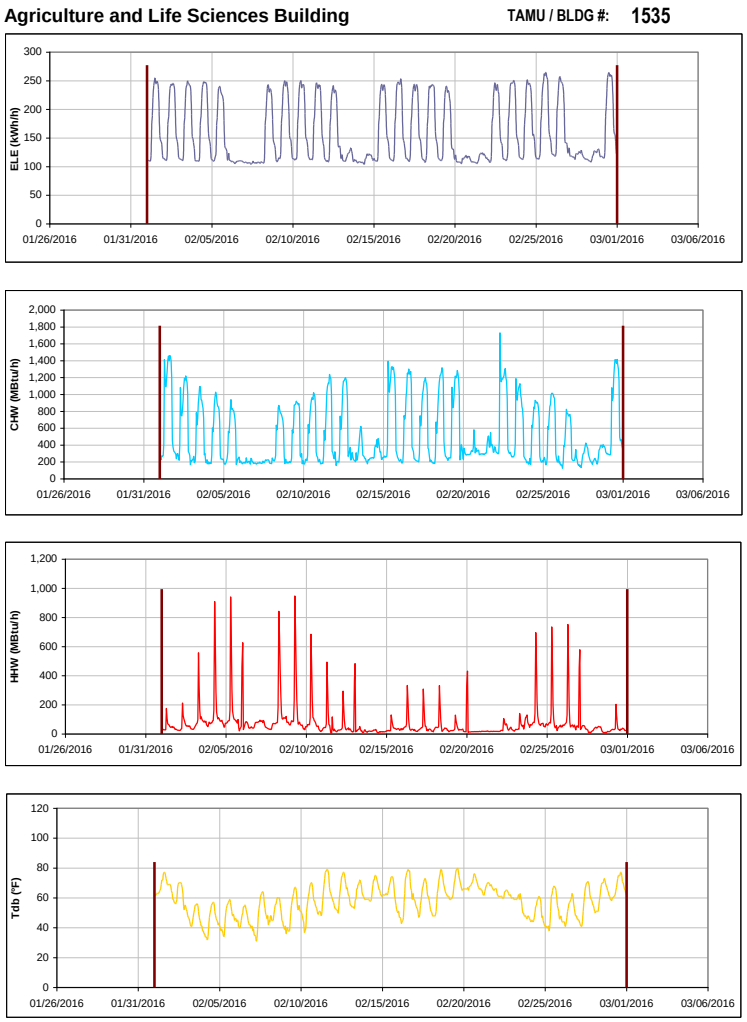


Figure III-158 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Agriculture and Life Sciences Building during the Month of TSPlots and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

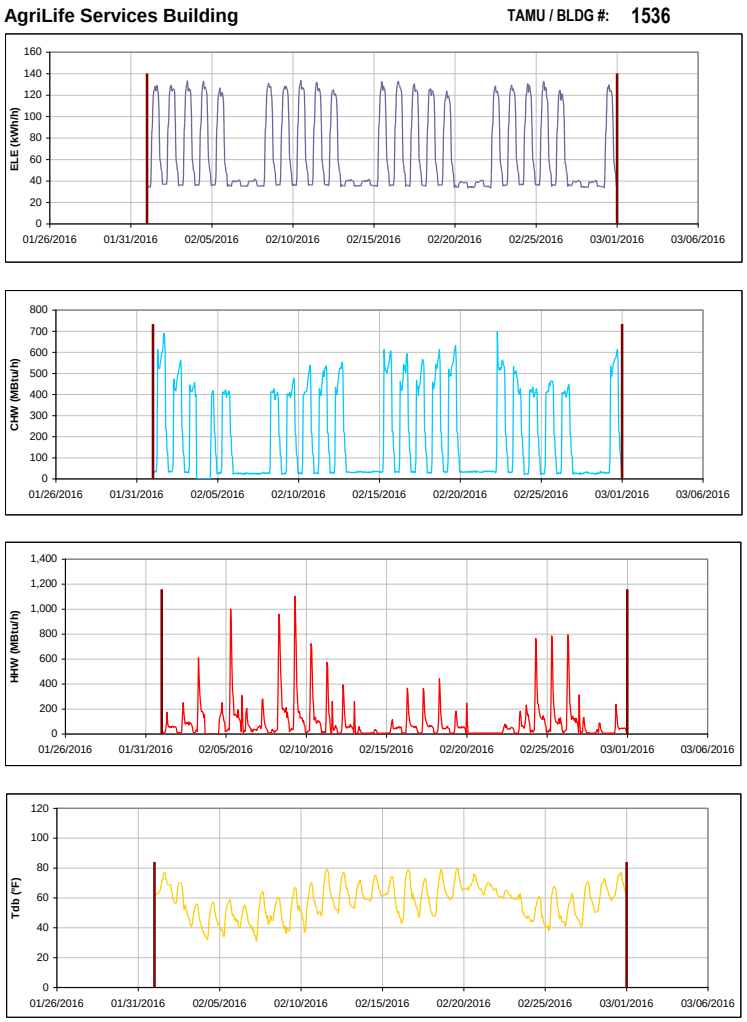


Figure III-159 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for AgriLife Services Building during the Month of TSPlots and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

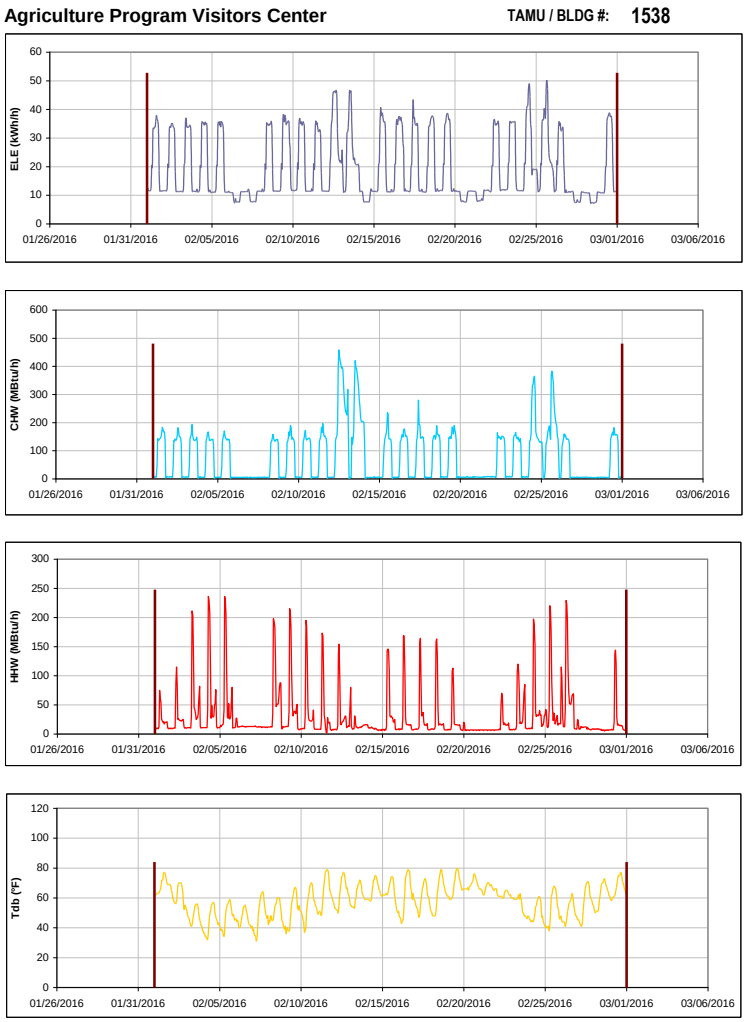


Figure III-160 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Agriculture Program Visitors Center during the Month of TSPlots and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

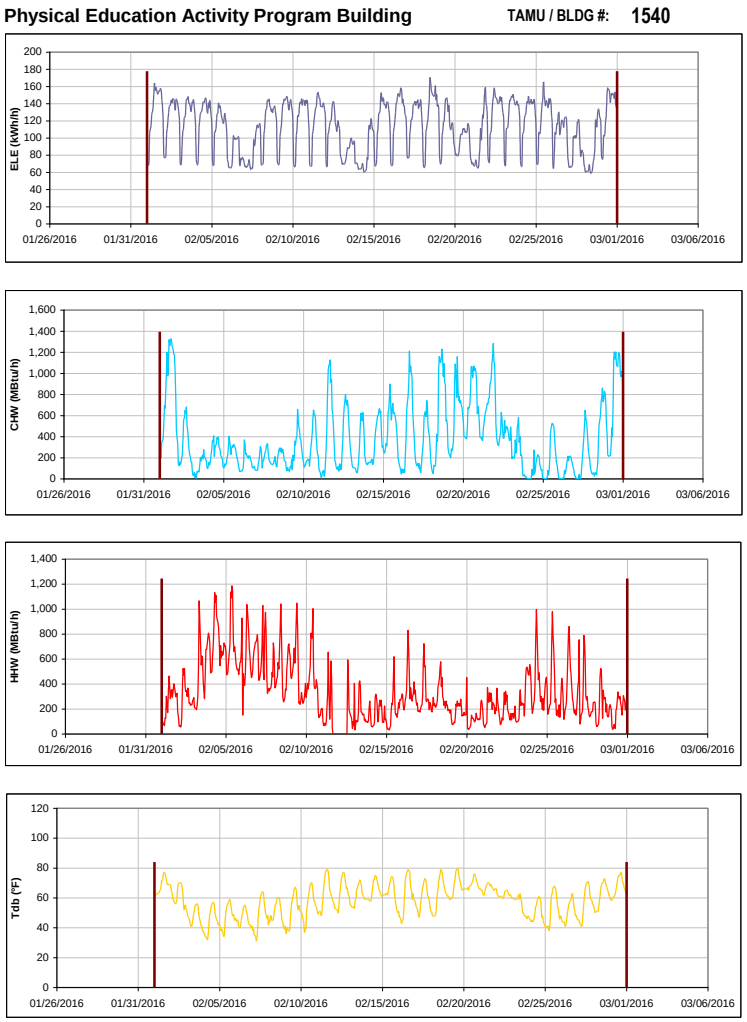


Figure III-161 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Physical Education Activity Program Building during the Month of TSPlots and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

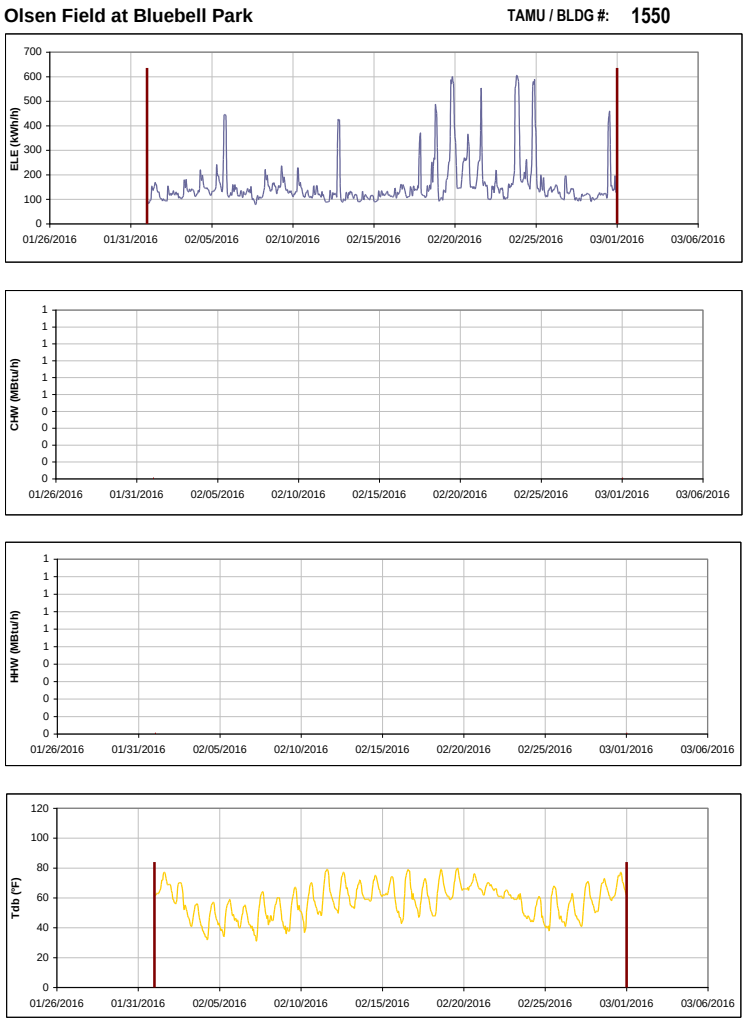


Figure III-162 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Olsen Field at Bluebell Park during the Month of TSPlots and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

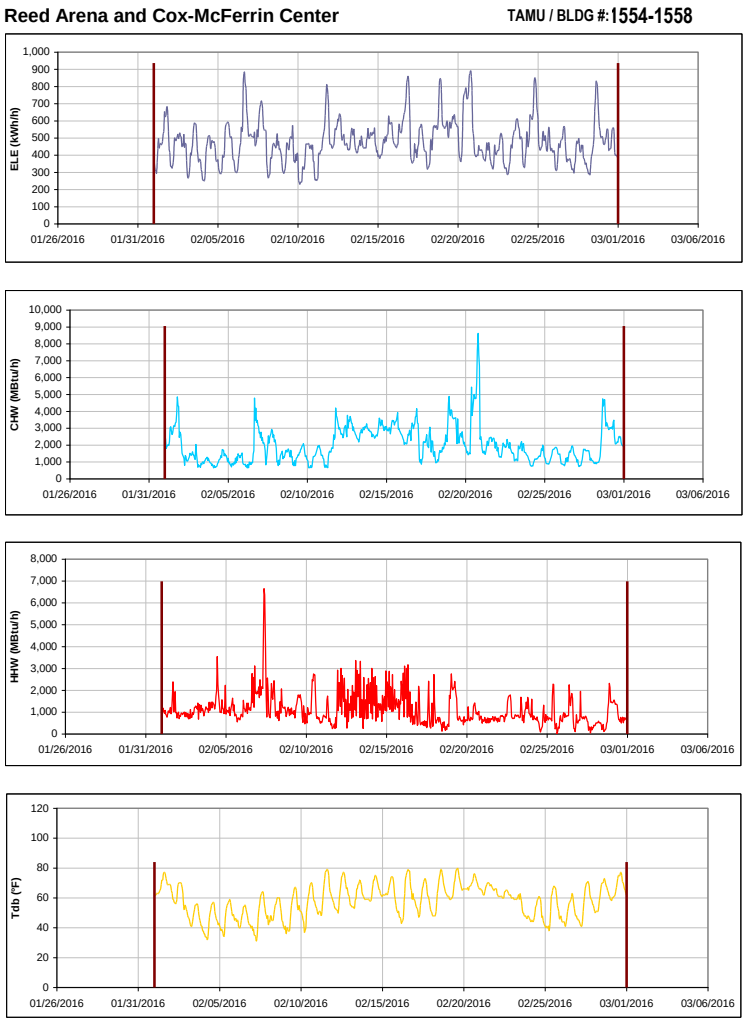


Figure III-163 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Reed Arena and Cox-McFerrin Center during the Month of TSPlots and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

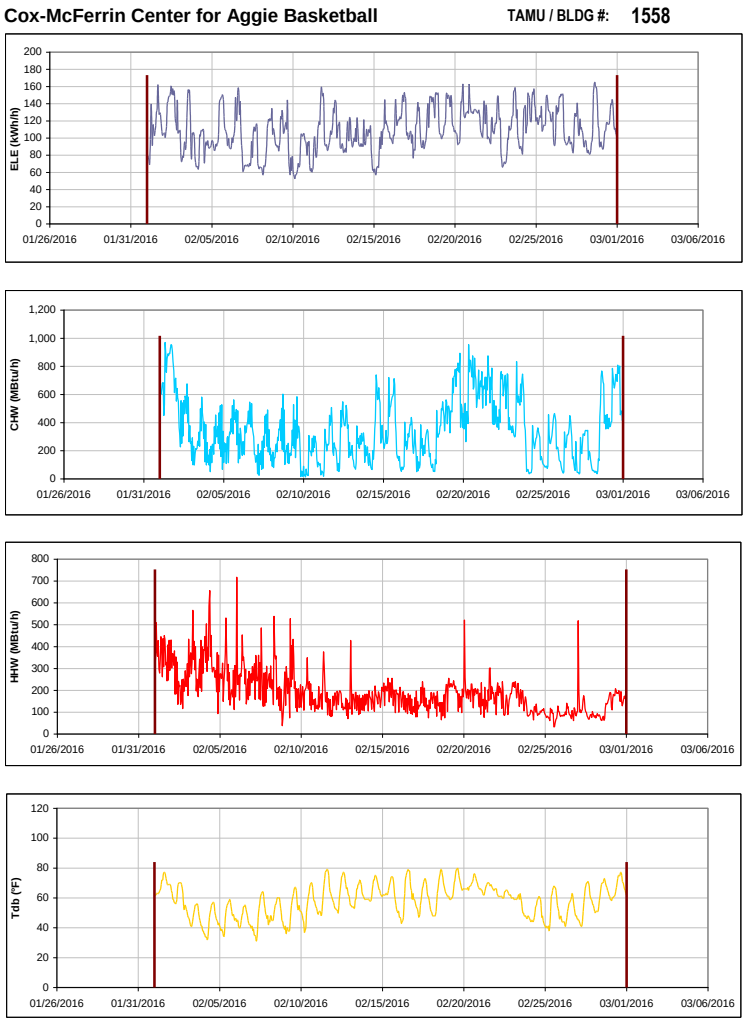


Figure III-164 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Cox-McFerrin Center for Aggie Basketball during the Month of TSPlots and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

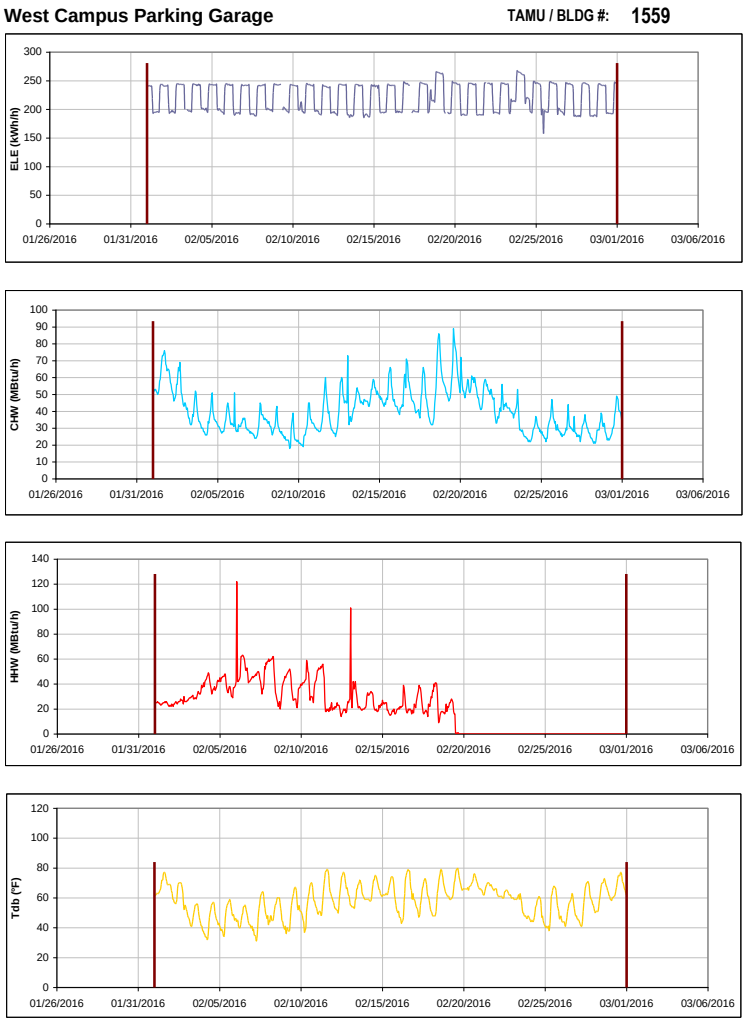


Figure III-165 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for West Campus Parking Garage during the Month of TSPlots and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

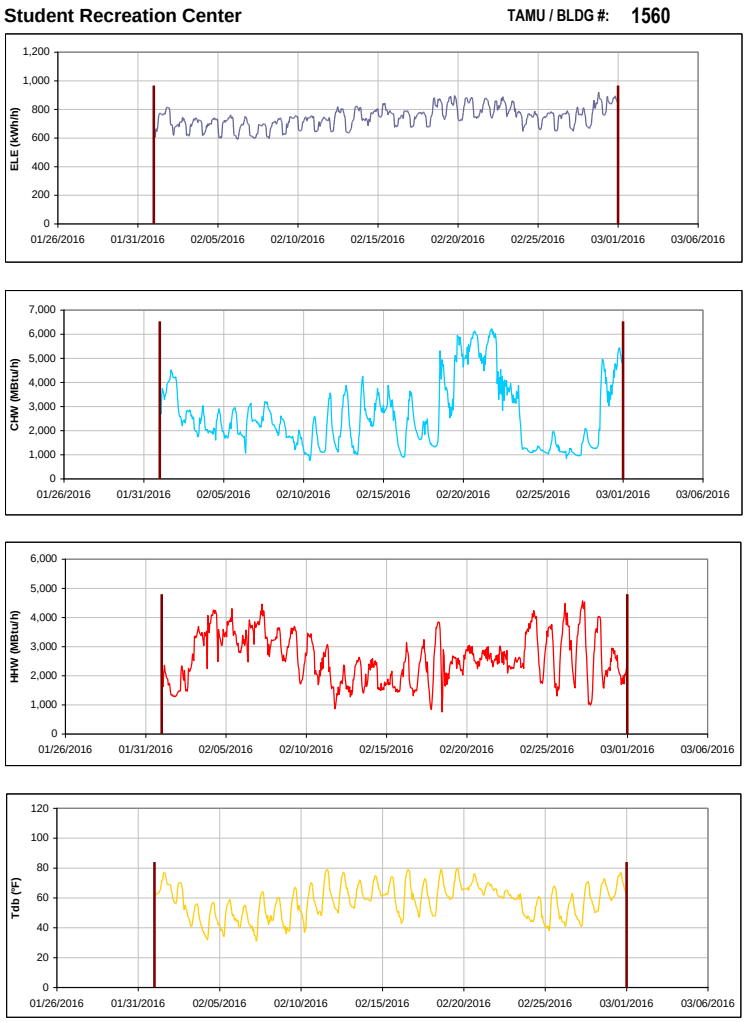


Figure III-166 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Student Recreation Center during the Month of TSPlots and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

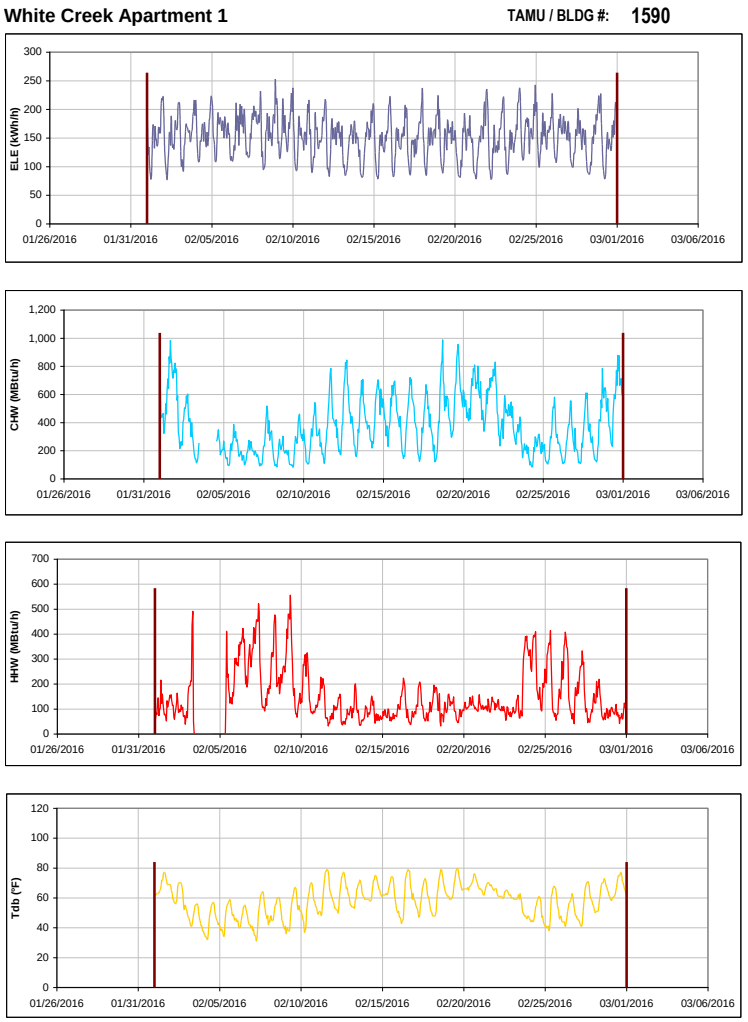


Figure III-167 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for White Creek Apartment 1 during the Month of TSPlots and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

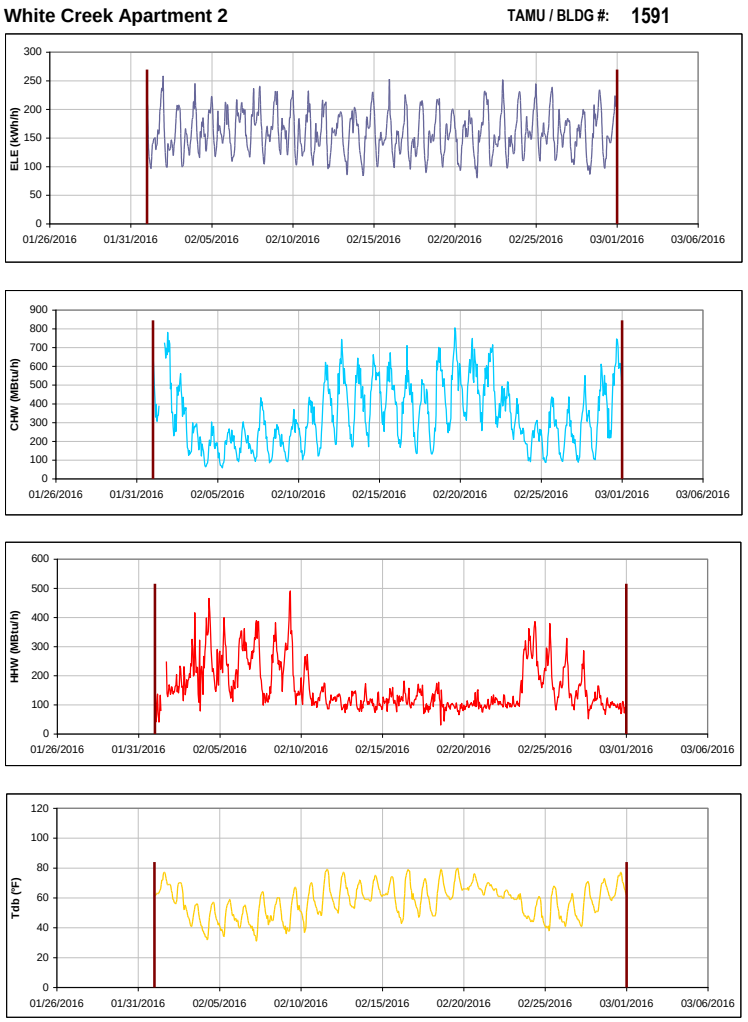


Figure III-168 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for White Creek Apartment 2 during the Month of TSPlots and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

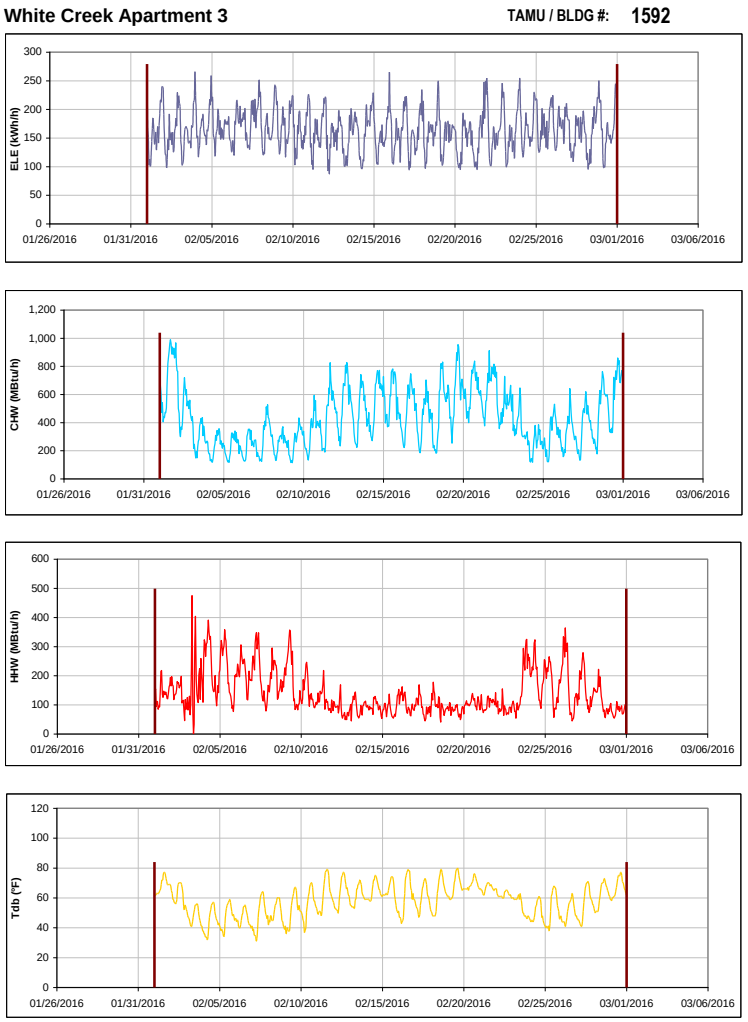


Figure III-169 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for White Creek Apartment 3 during the Month of TSPlots and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

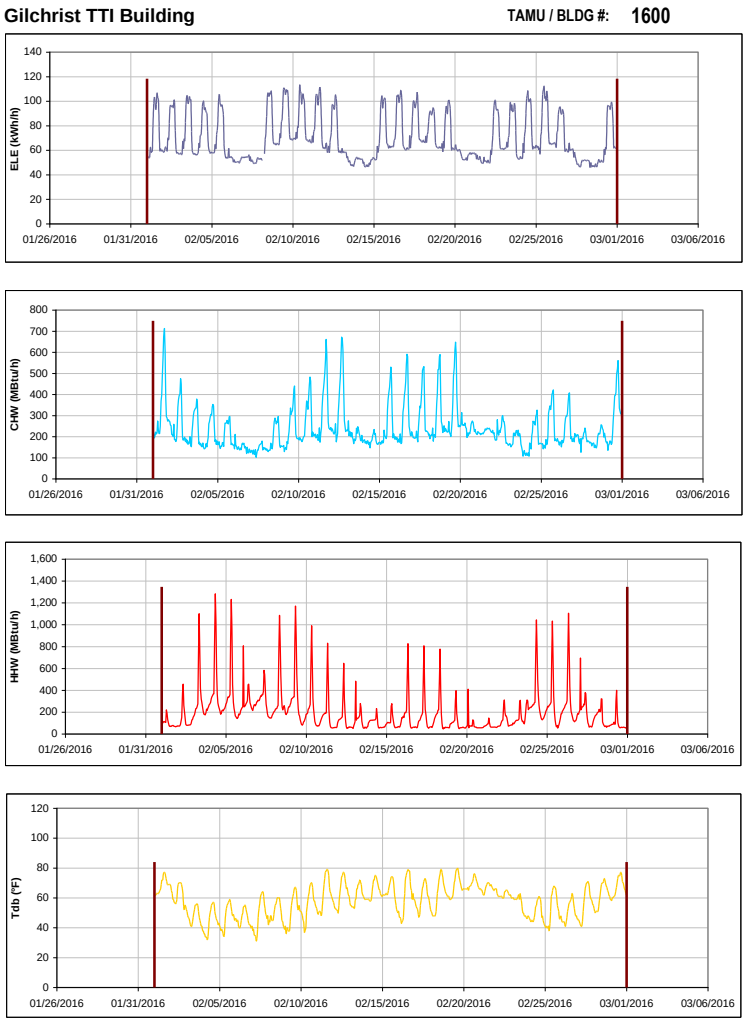


Figure III-170 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Gilchrist TTI Building during the Month of TSPlots and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

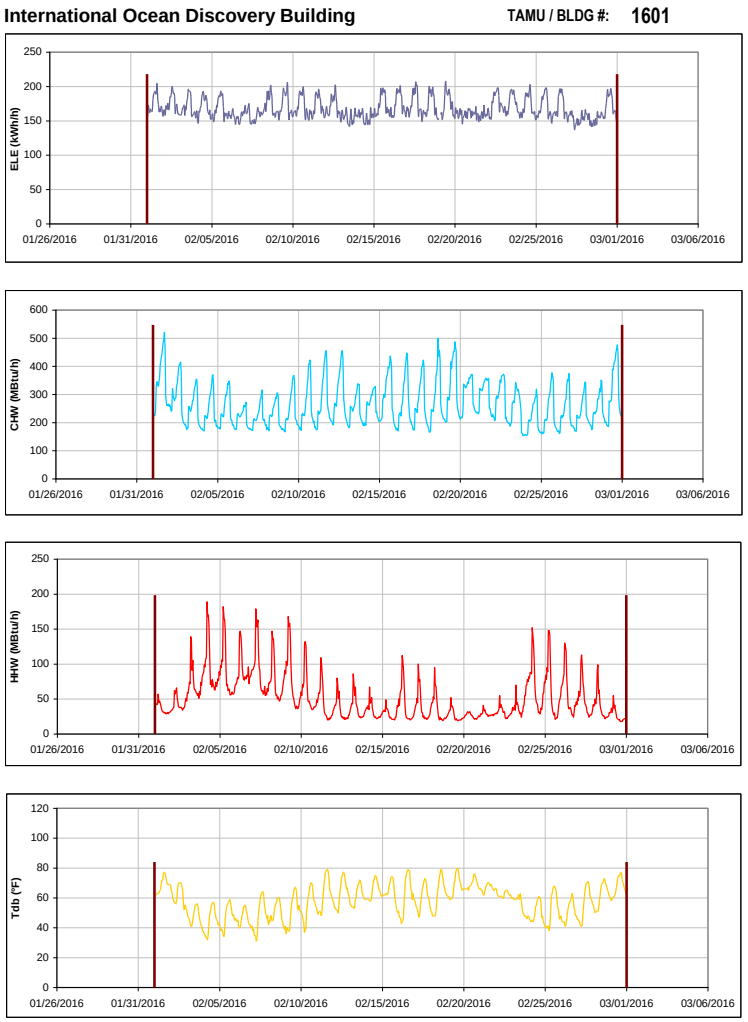


Figure III-171 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for International Ocean Discovery Building during the Month of TSPlots and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

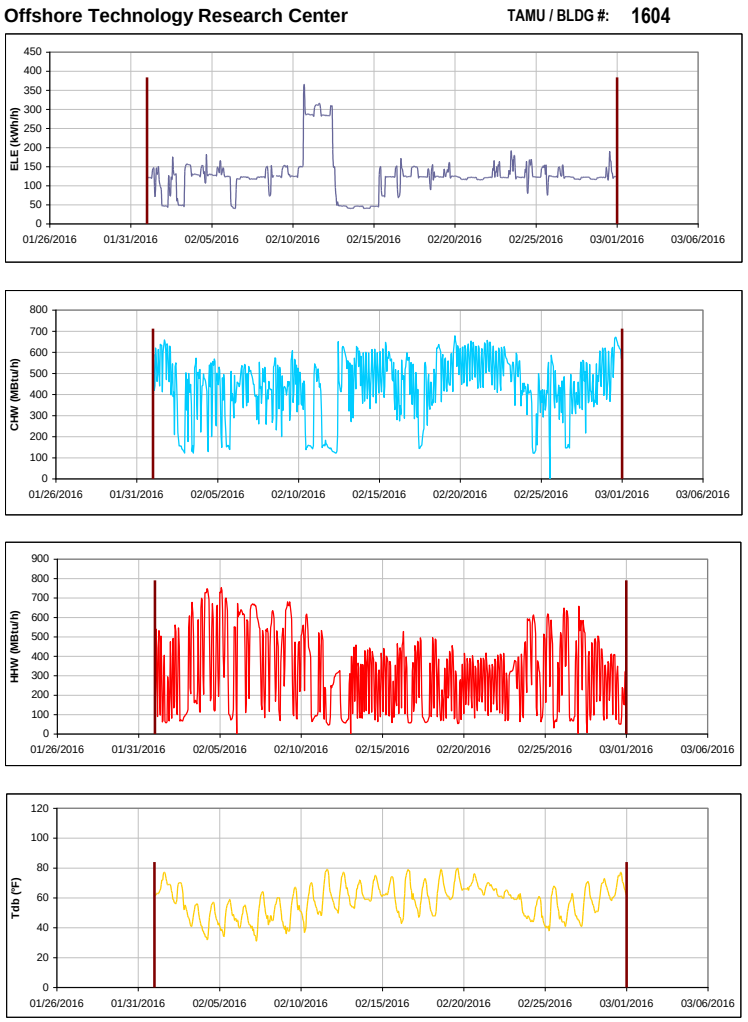


Figure III-172 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Offshore Technology Research Center during the Month of TSPlots and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

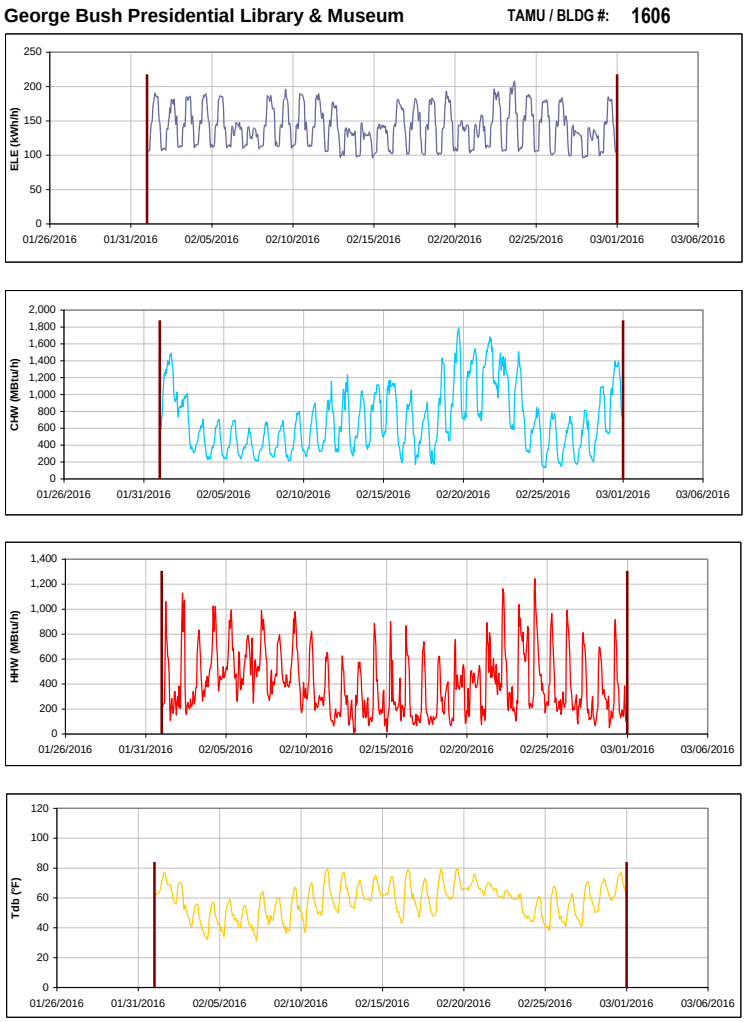


Figure III-173 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for George Bush Presidential Library & Museum during the Month of TSPlots and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

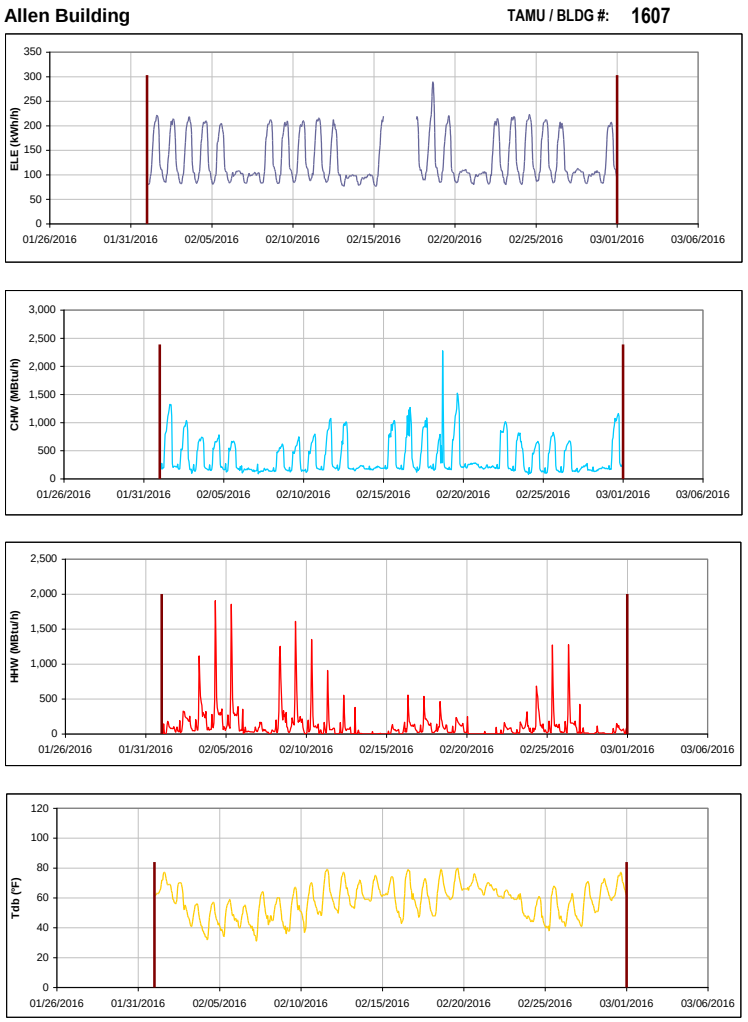


Figure III-174 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Allen Building during the Month of TSPlots and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

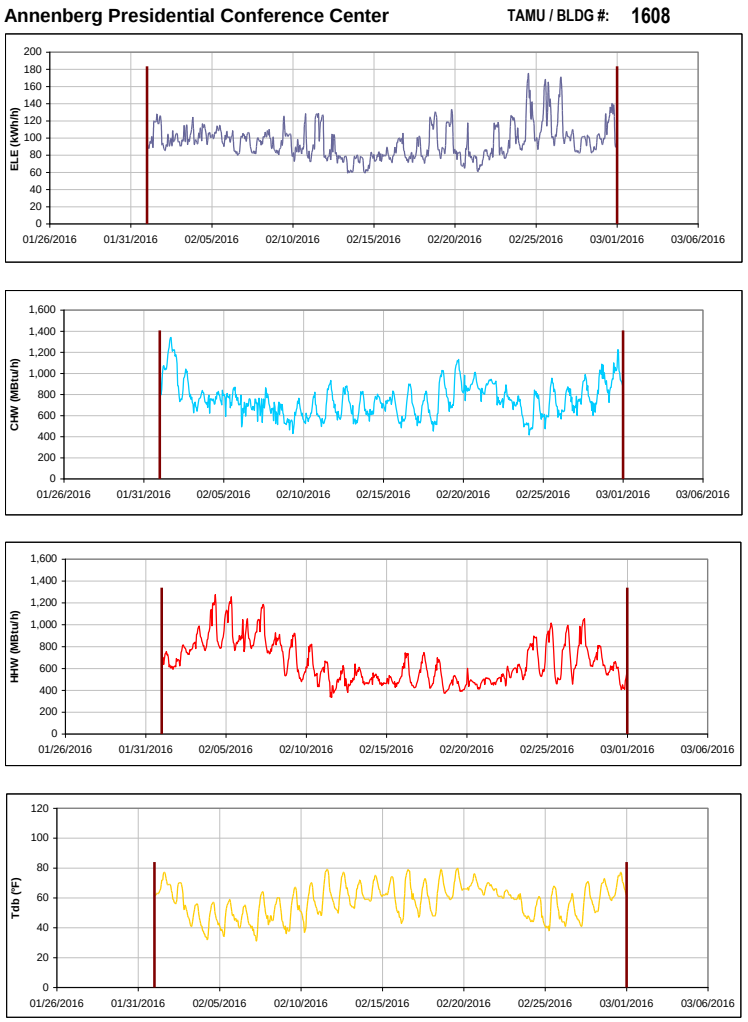


Figure III-175 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Annenberg Presidential Conference Center during the Month of TSPlots and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

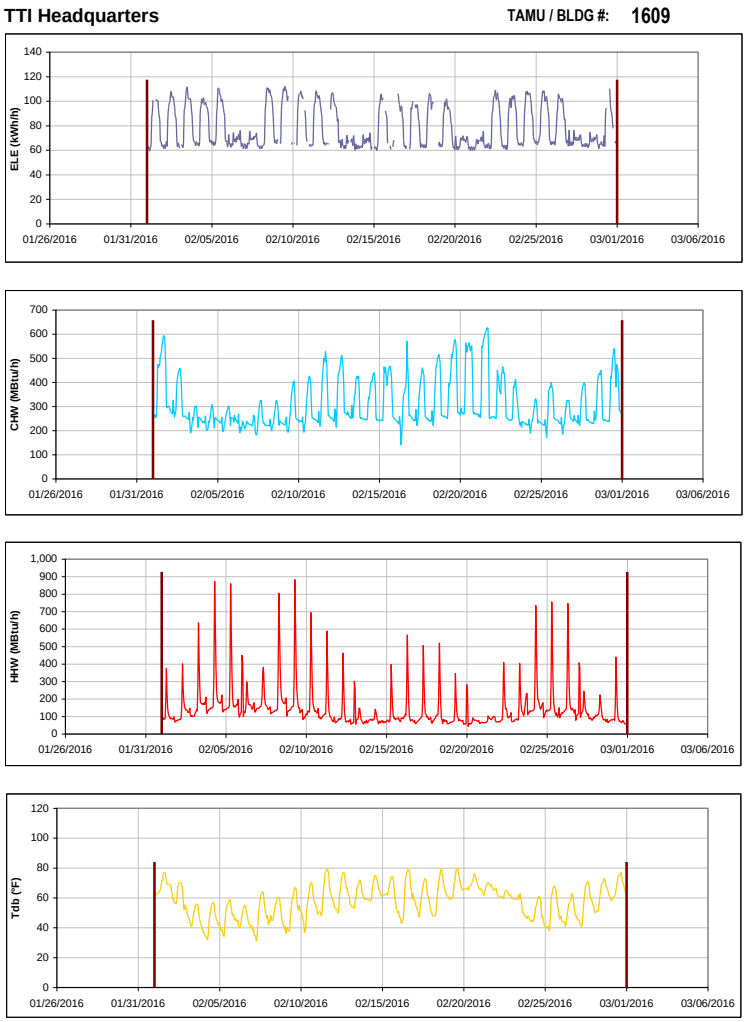


Figure III-176 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for TTI Headquarters during the Month of TSPlots and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

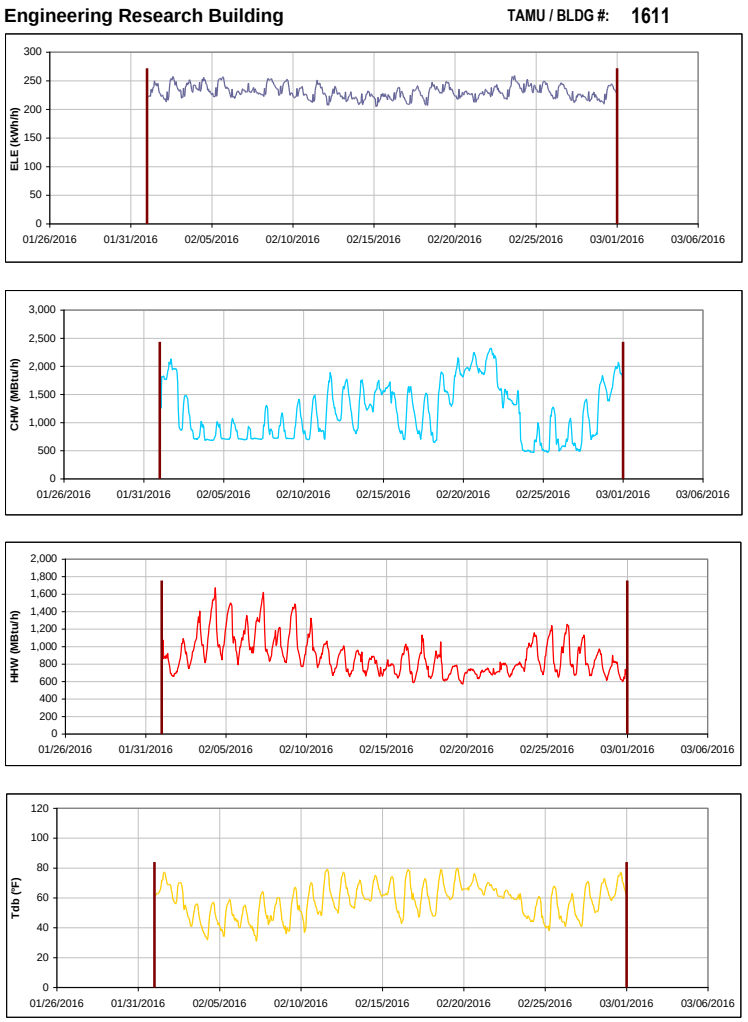


Figure III-177 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Engineering Research Building during the Month of TSPlots and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

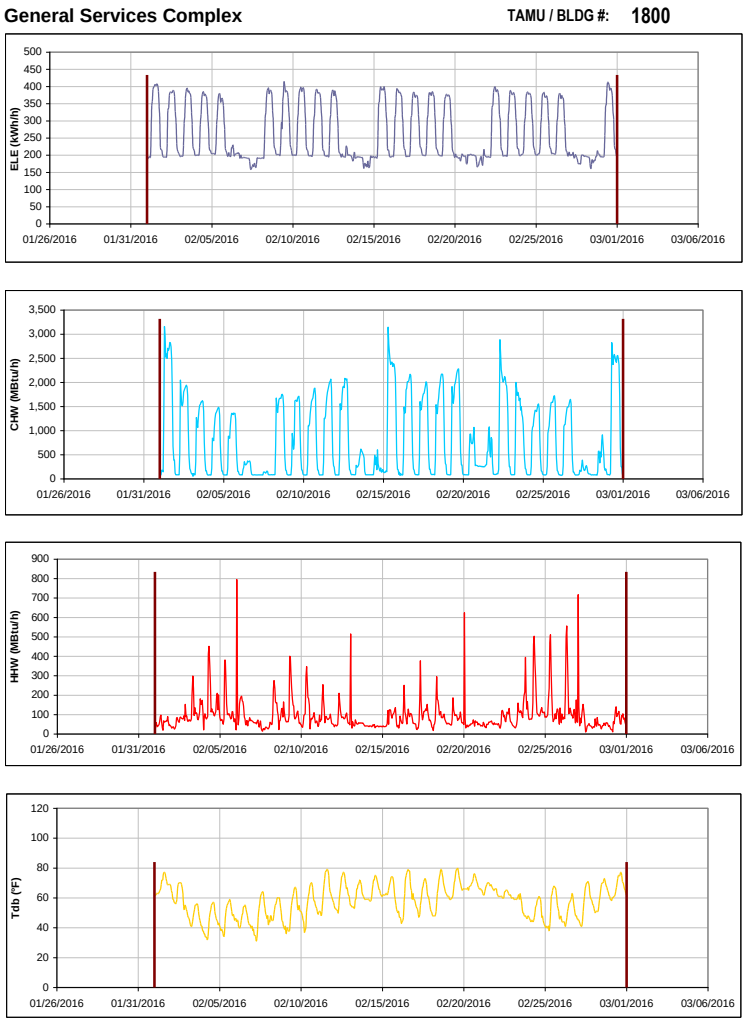


Figure III-178 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for General Services Complex during the Month of TSPlots and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

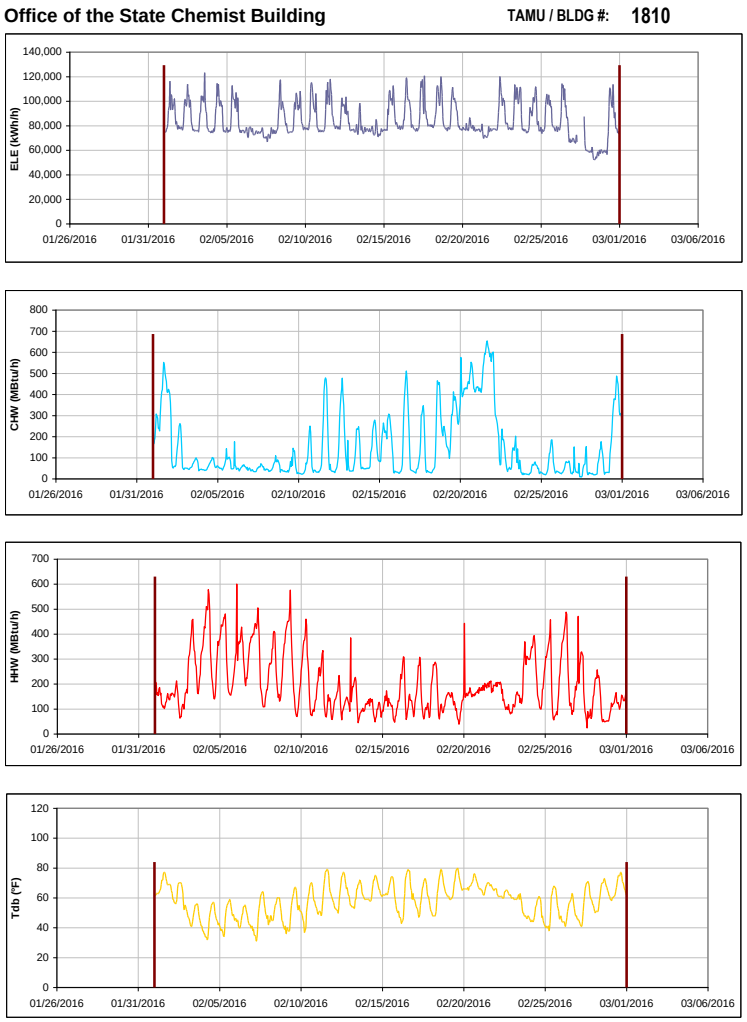


Figure III-179 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Office of the State Chemist Building during the Month of TSPlots and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

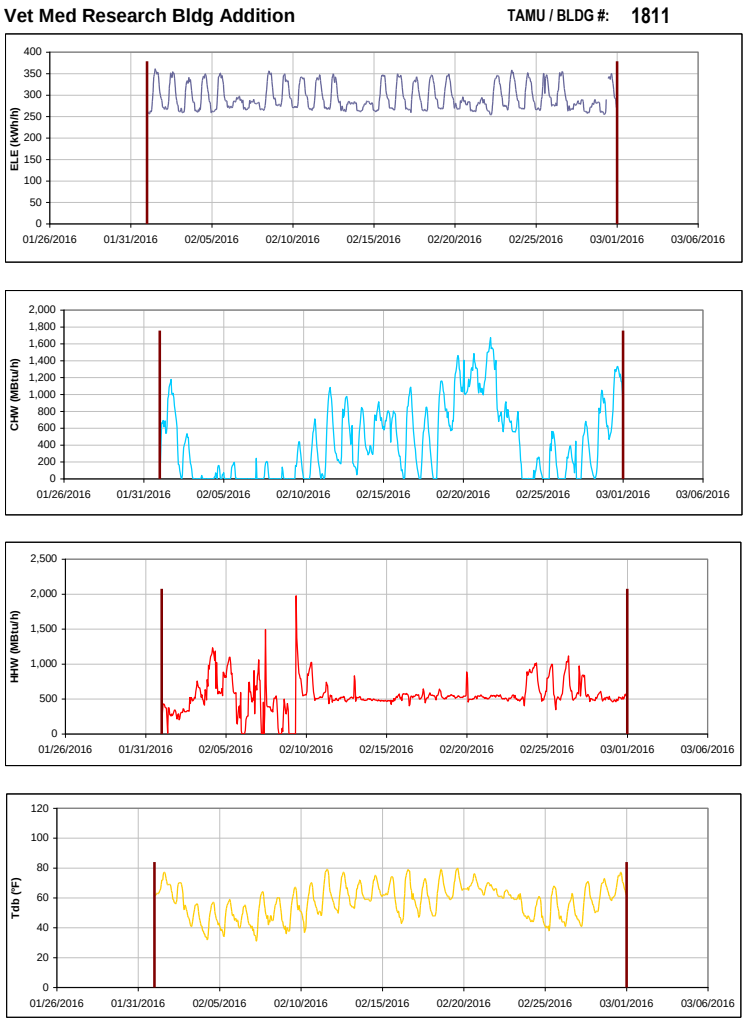


Figure III-180 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Vet Med Research Bldg Addition during the Month of TSPlots and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

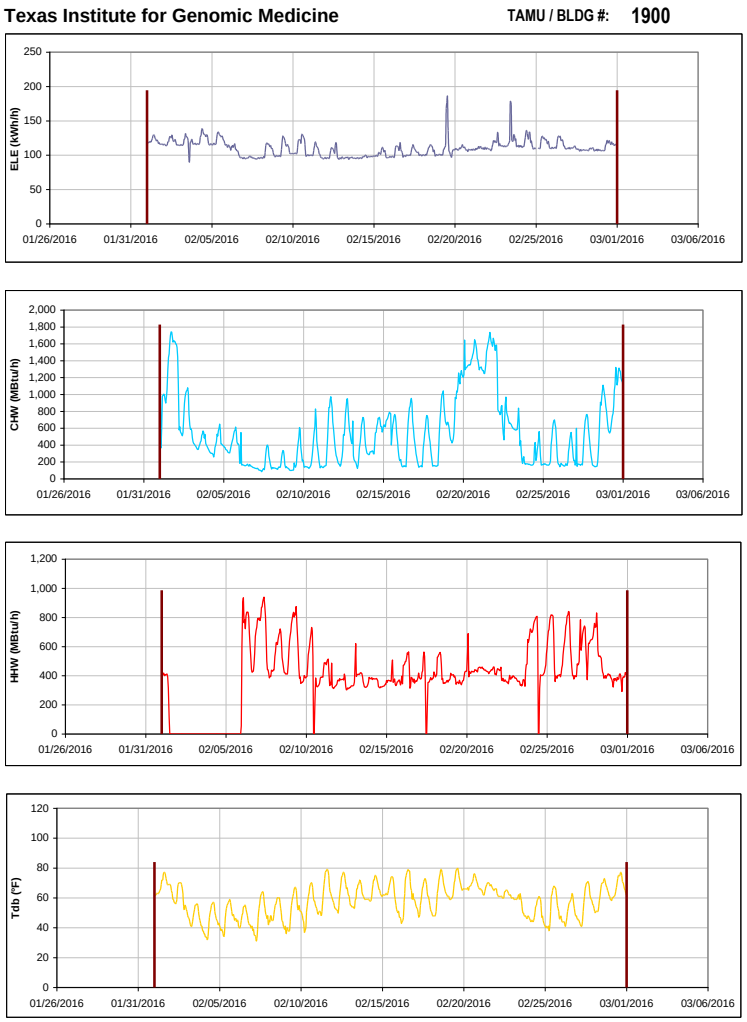


Figure III-181 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Texas Institute for Genomic Medicine during the Month of TSPlots and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

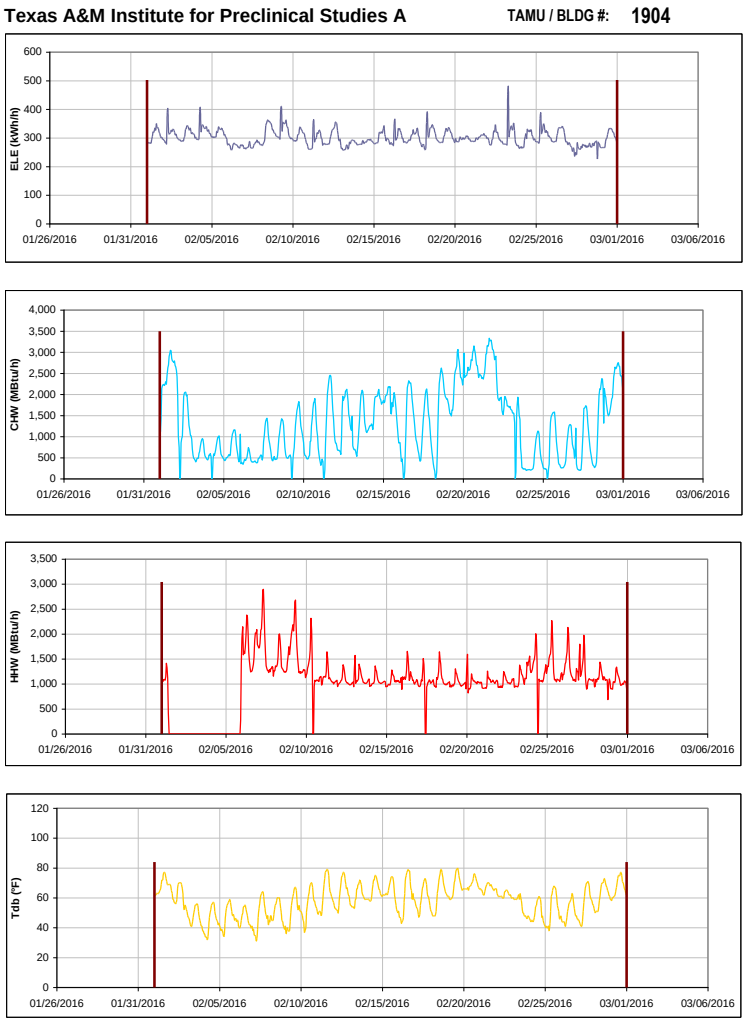


Figure III-182 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Texas A&M Institute for Preclinical Studies A during the Month of TSPlots and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

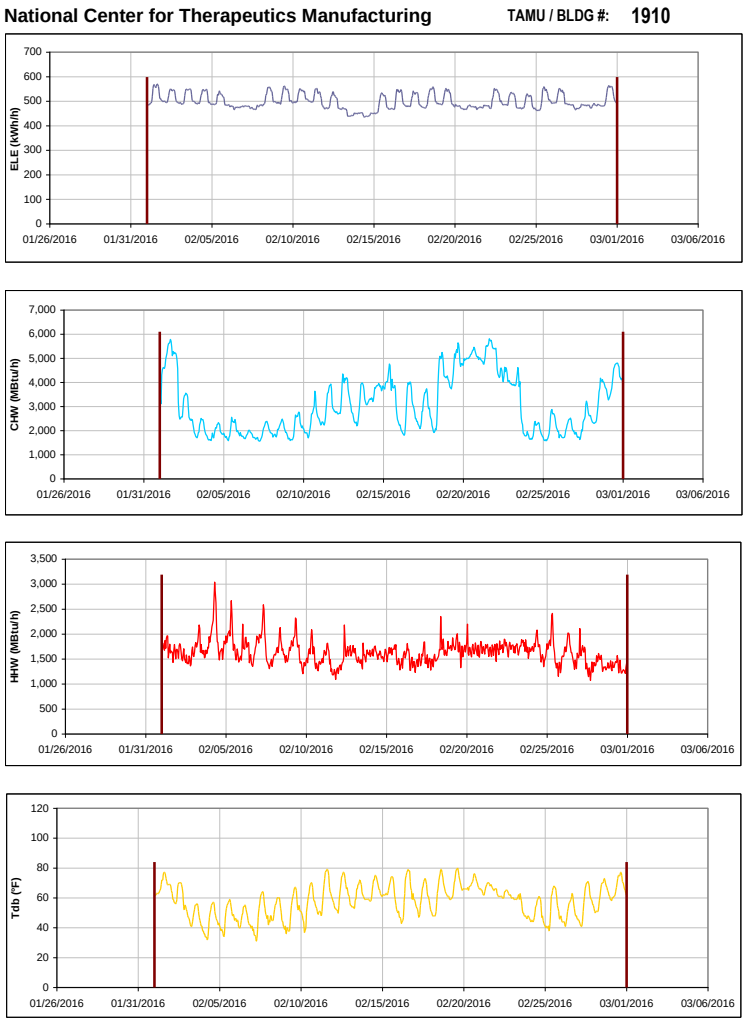


Figure III-183 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for National Center for Therapeutics Manufacturing during the Month of TSPlots and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

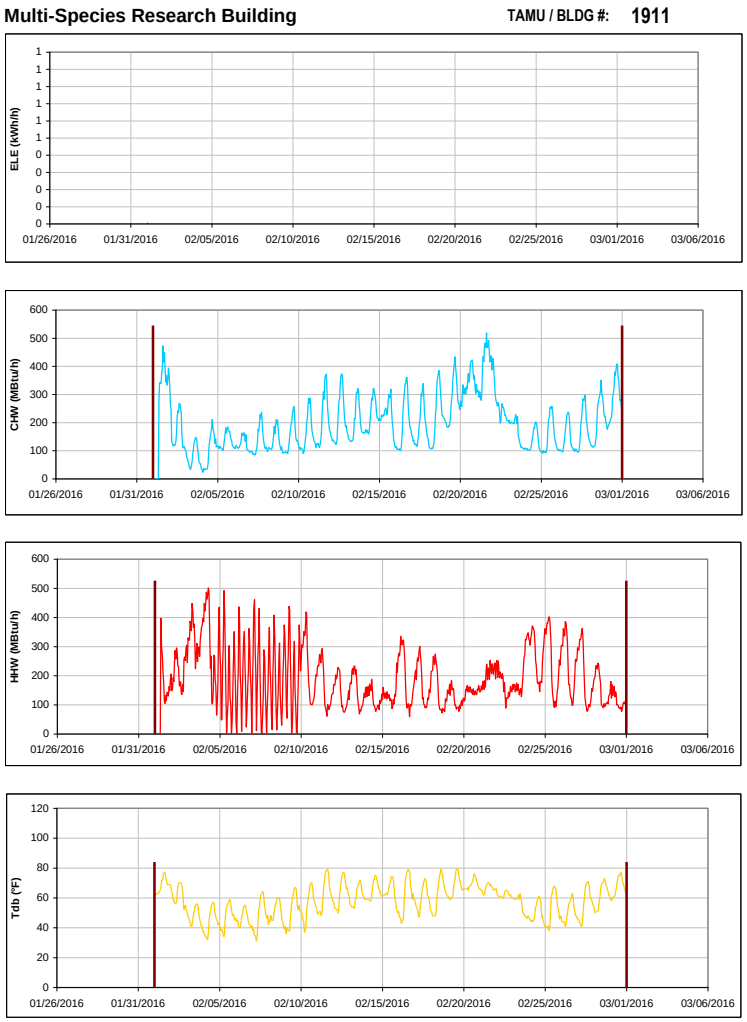


Figure III-184 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Multi-Species Research Building during the Month of TSPlots and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

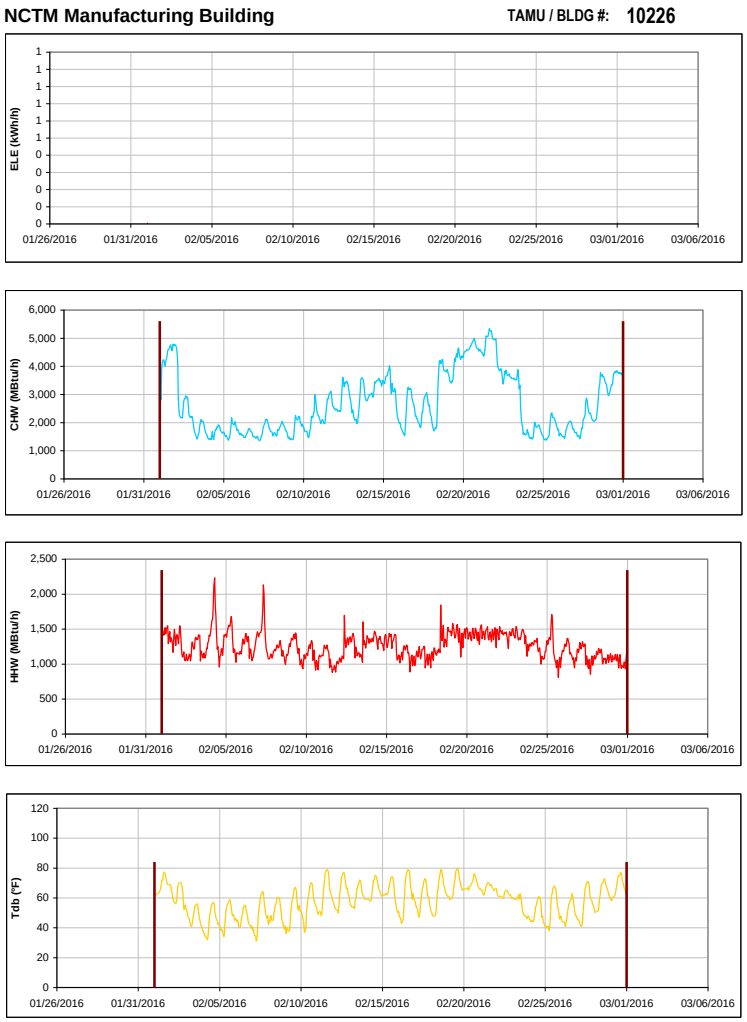


Figure III-185 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for NCTM Manufacturing Building during the Month of TSPlots and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

IV. Energy Balance Plots for February 2016 Consumption

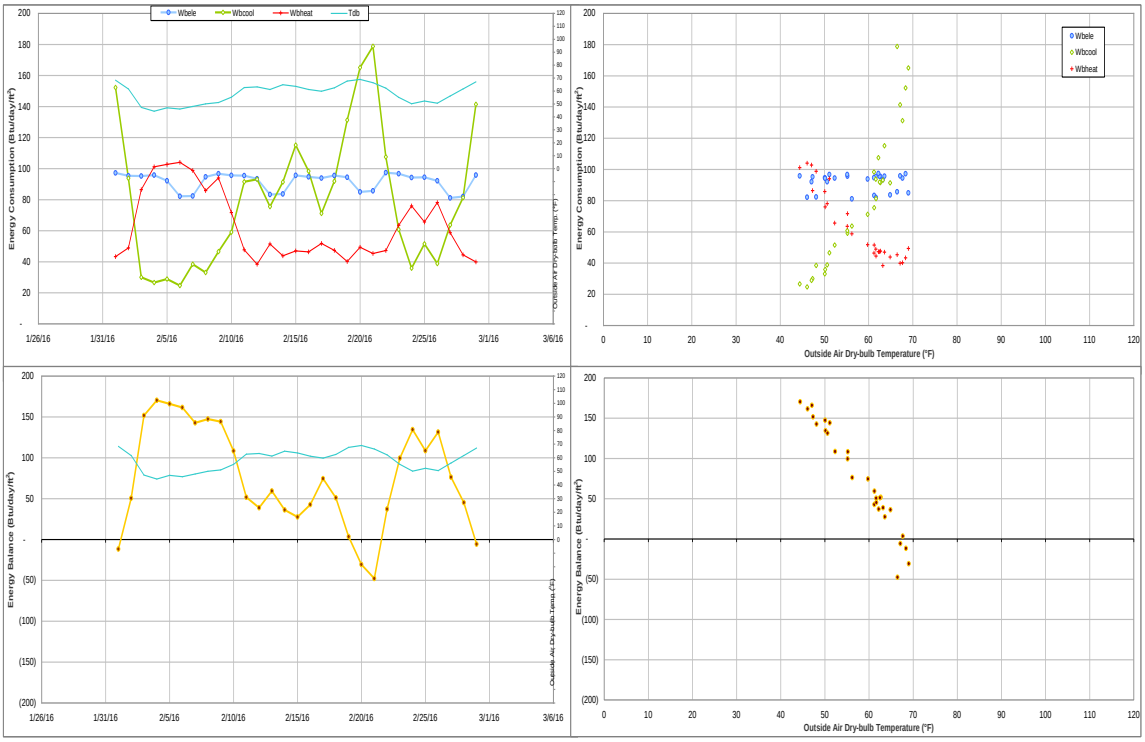


Figure IV-1 Emerging Technologies Building TAMU BLDG # 270 Energy Balance Plot during February 2016

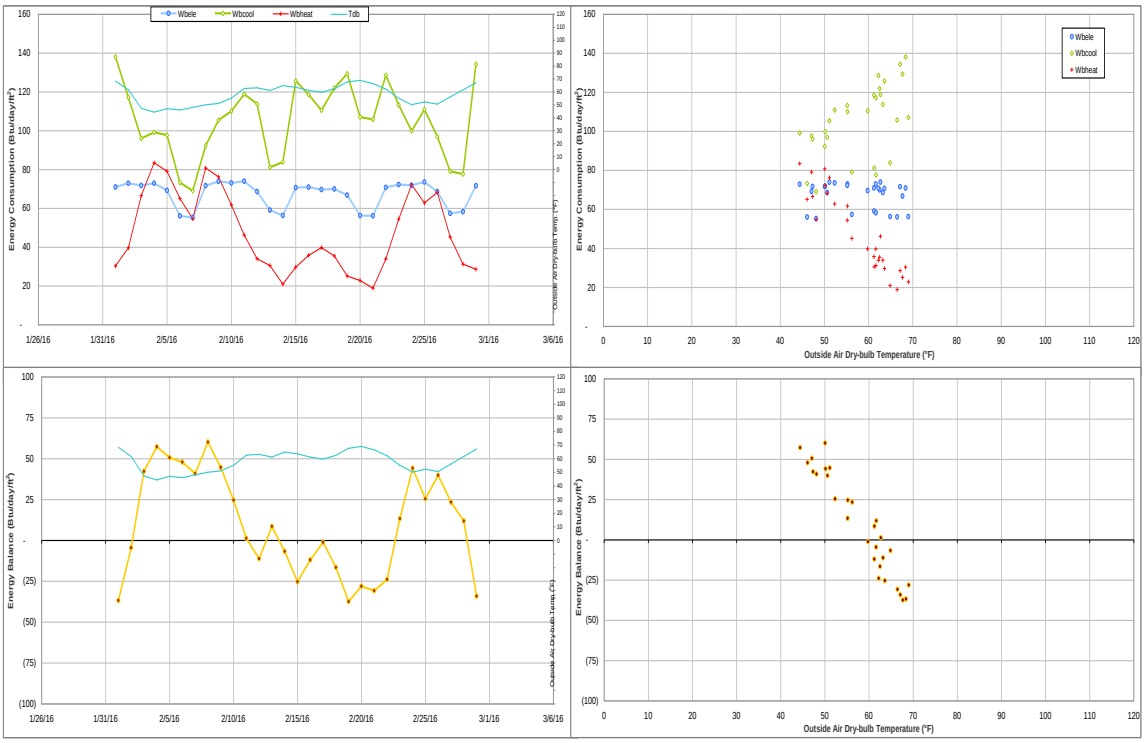


Figure IV-2 Liberal Arts and Arts & Humanities Building TAMU BLDG # 275 Energy Balance Plot during February 2016

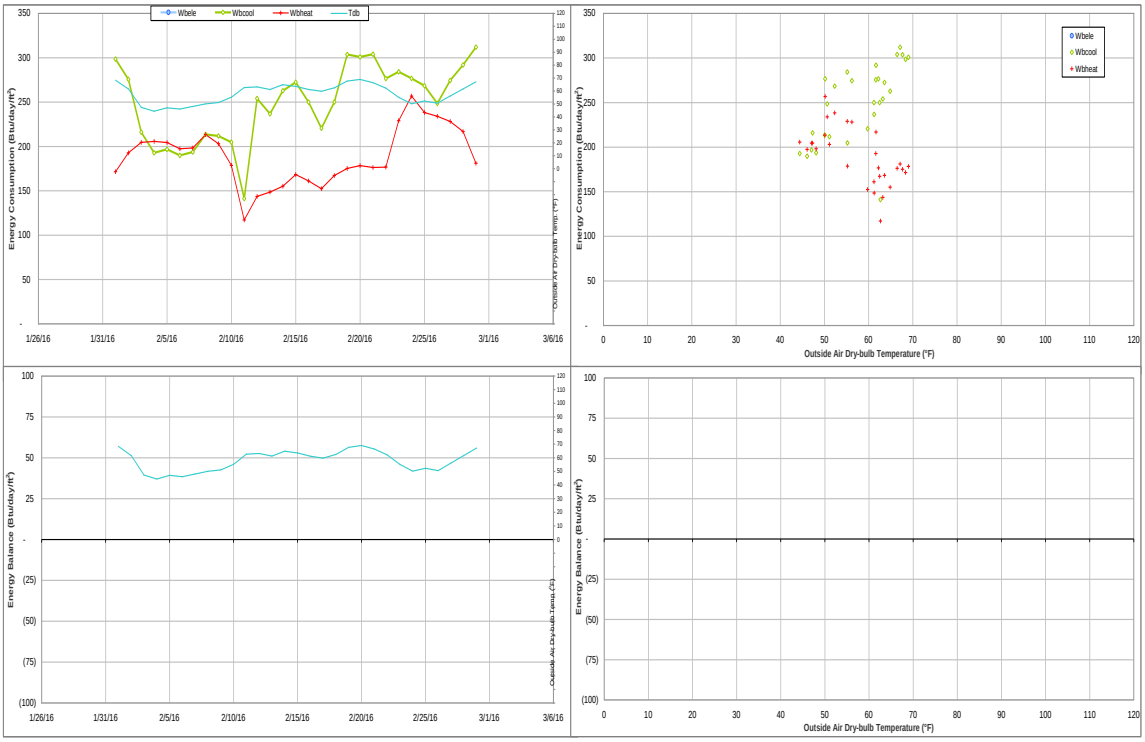


Figure IV-3 Wells Residence Hall TAMU BLDG # 290 Energy Balance Plot during February 2016

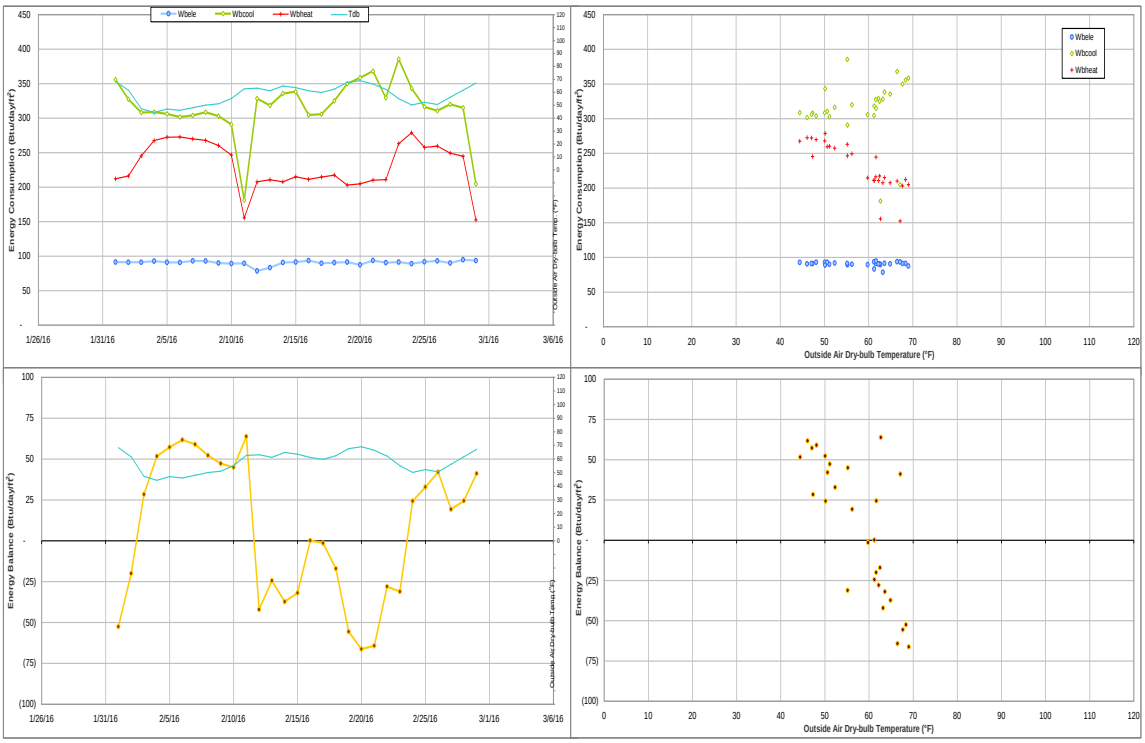


Figure IV-4 Rudder Residence Hall TAMU BLDG # 291 Energy Balance Plot during February 2016

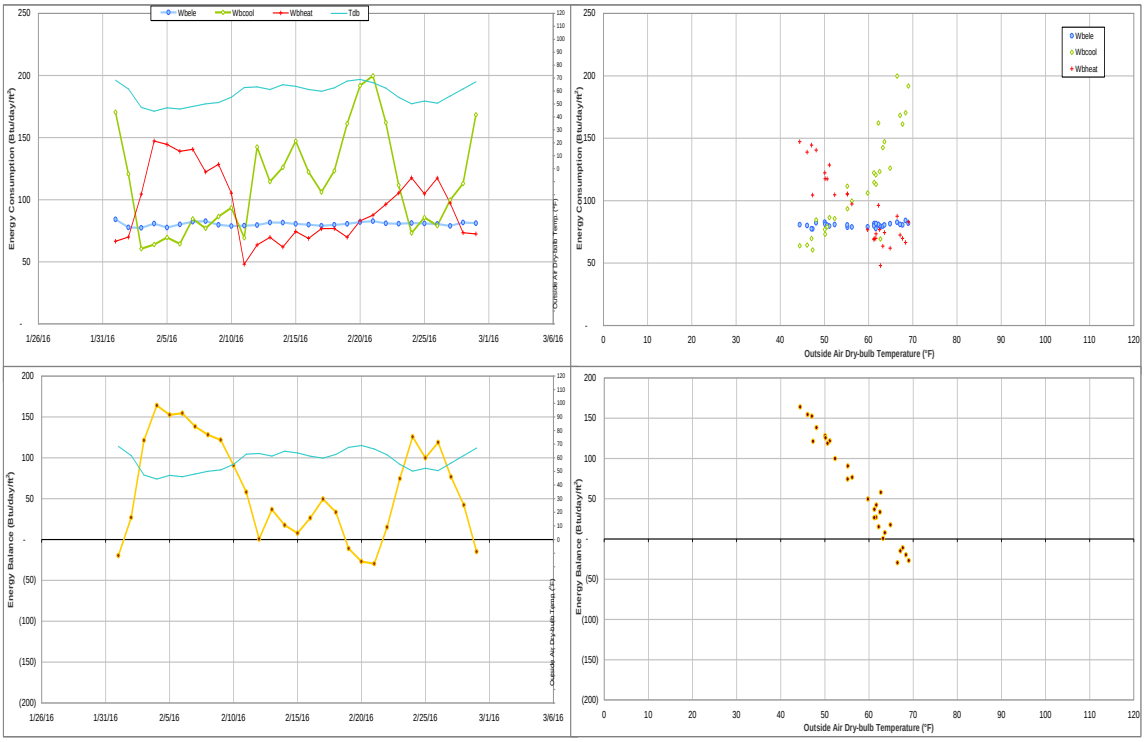


Figure IV-5 Eppright Residence Hall TAMU BLDG # 292 Energy Balance Plot during February 2016

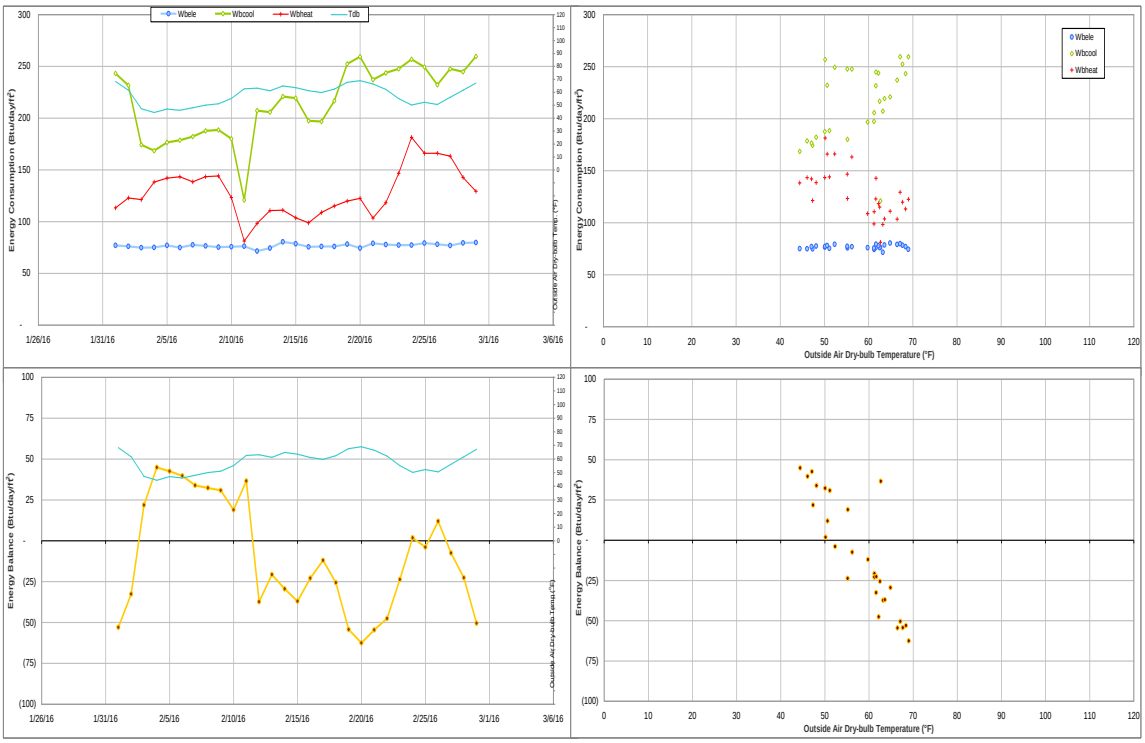


Figure IV-6 Appelt Residence Hall TAMU BLDG # 293 Energy Balance Plot during February 2016

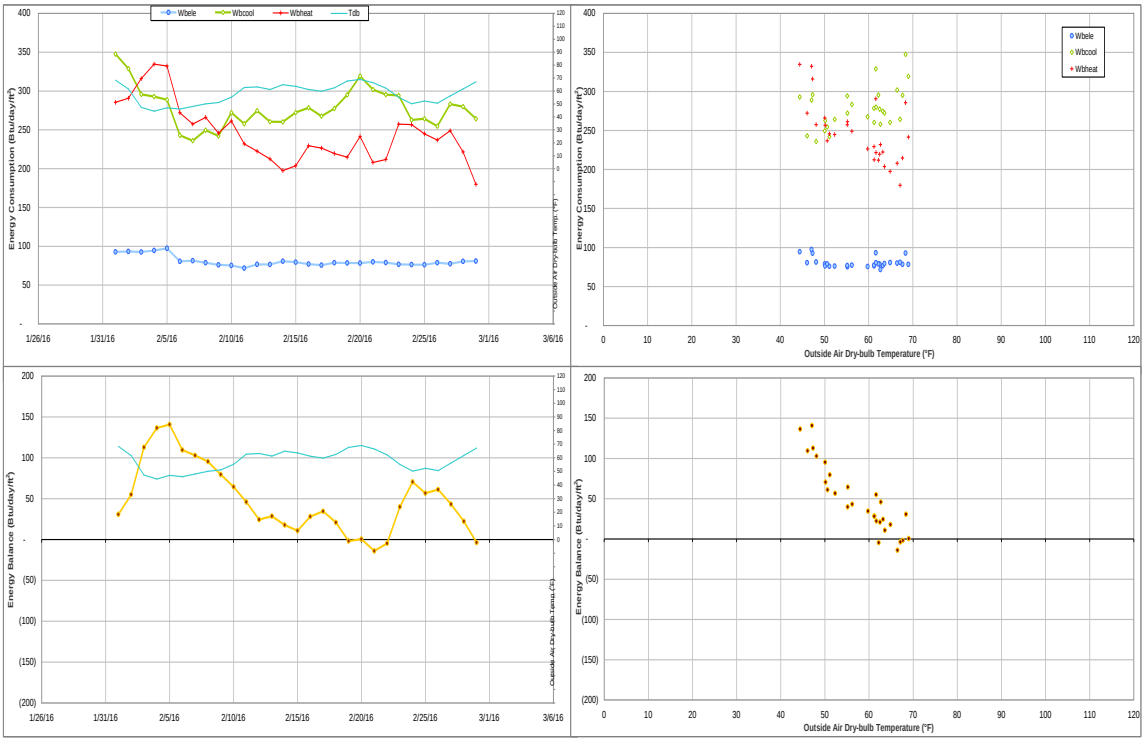


Figure IV-7 Lechner Residence Hall TAMU BLDG # 294 Energy Balance Plot during February 2016

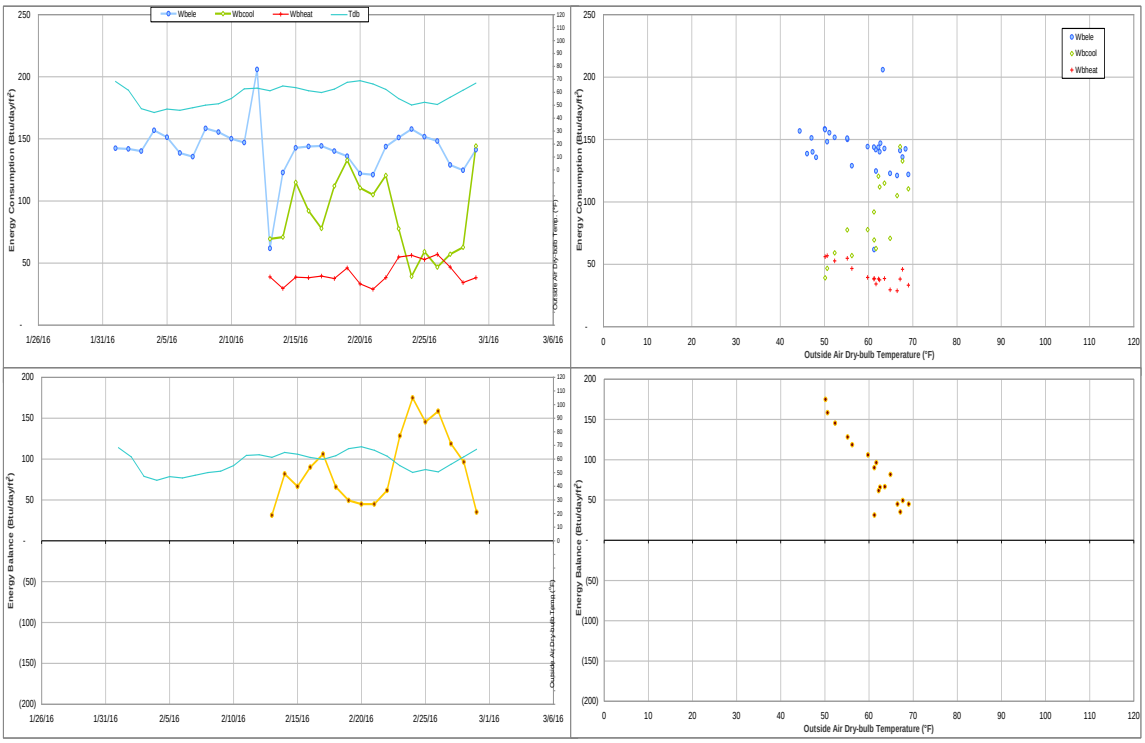


Figure IV-8 Mitchell Inst. for Fundamental Phys & Astronomy TAMU BLDG # 296 Energy Balance Plot during February 2016

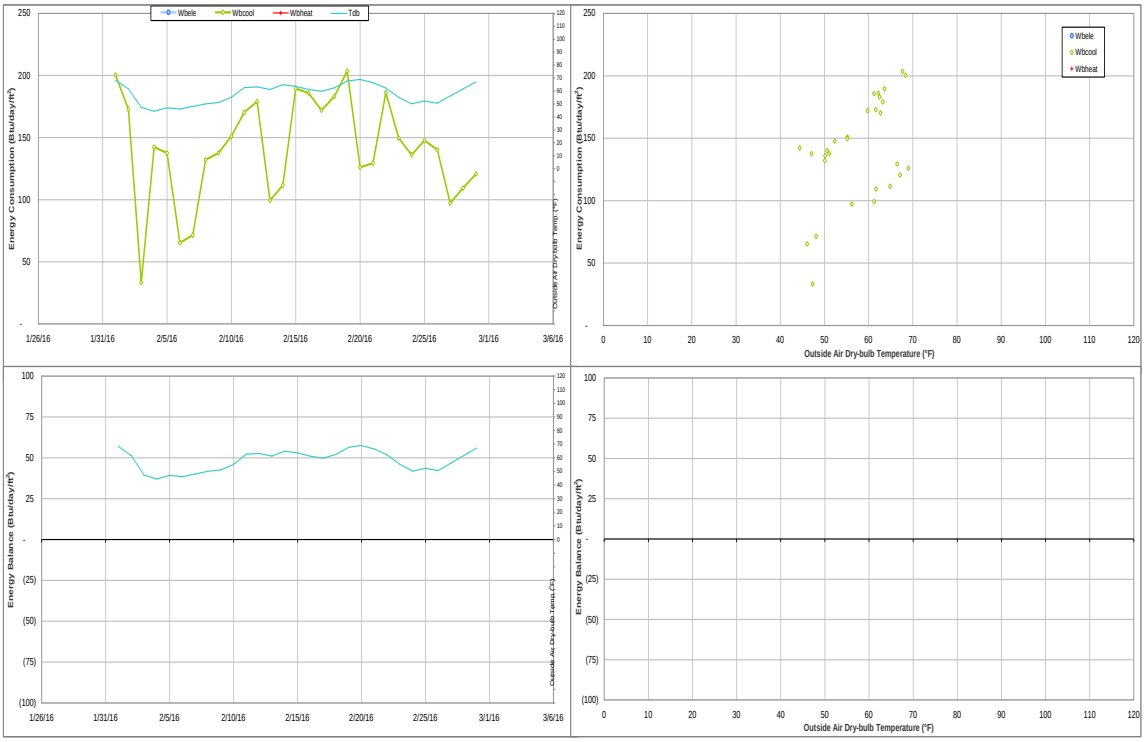


Figure IV-9 CE TTI Office & Lab Building TAMU BLDG # 325-385 Energy Balance Plot during February 2016

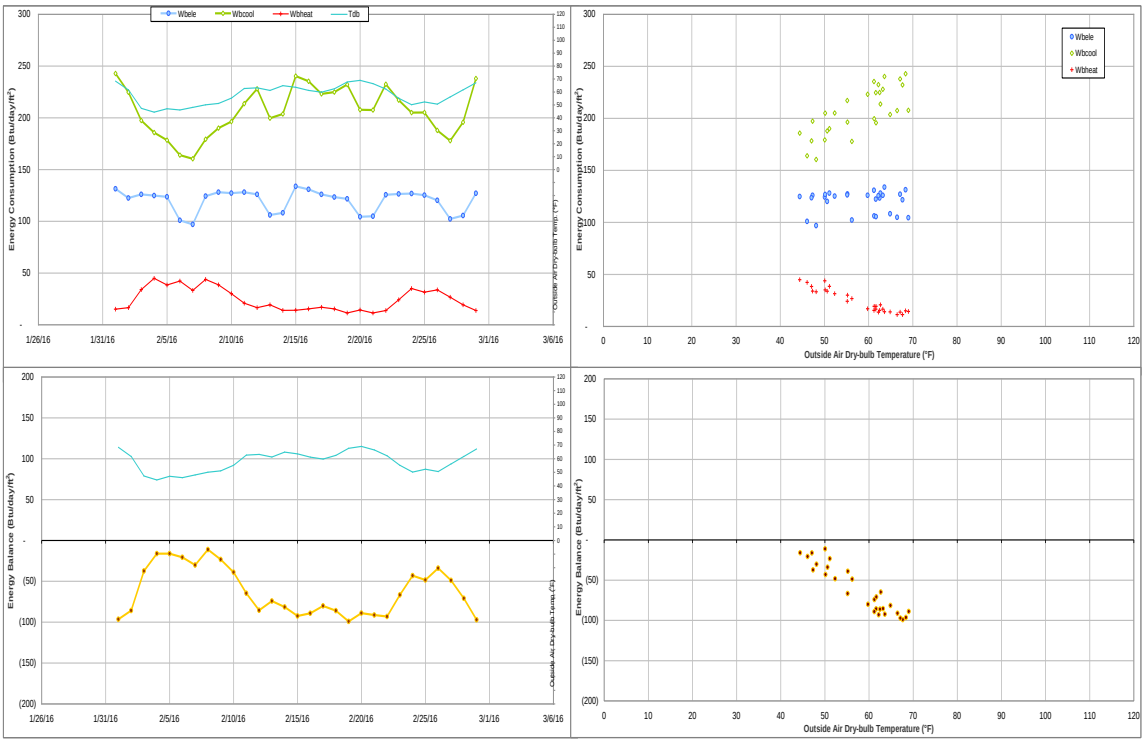


Figure IV-10 Bright Aerospace Building TAMU BLDG # 353 Energy Balance Plot during February 2016

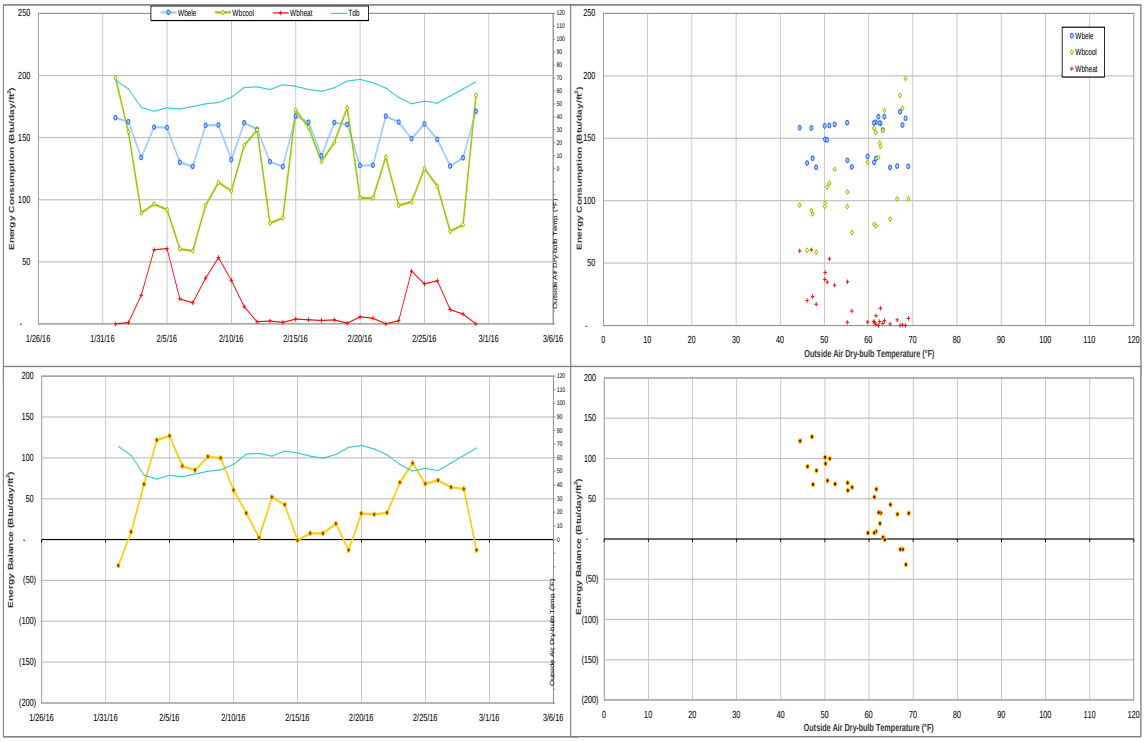


Figure IV-11 Davis Football Player Development Center TAMU BLDG # 358 Energy Balance Plot during February 2016

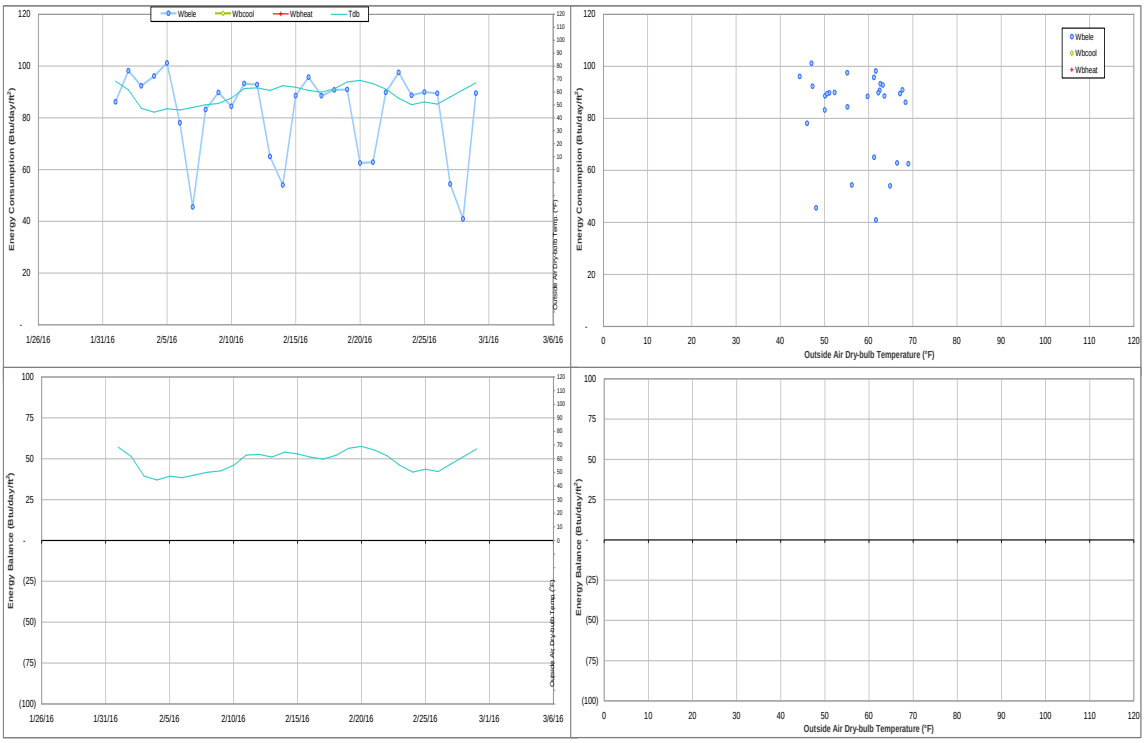


Figure IV-12 Architecture Building B TAMU BLDG # 359 Energy Balance Plot during February 2016

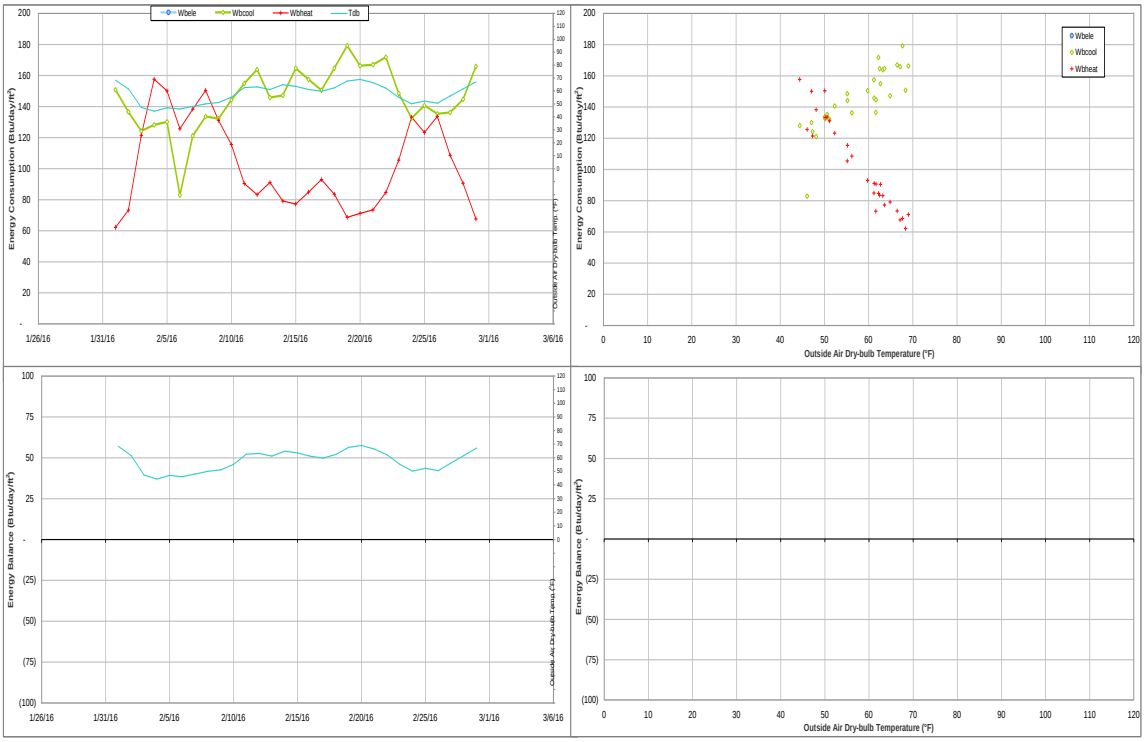


Figure IV-13 Architecture Building B&C TAMU BLDG # 359 Energy Balance Plot during February 2016

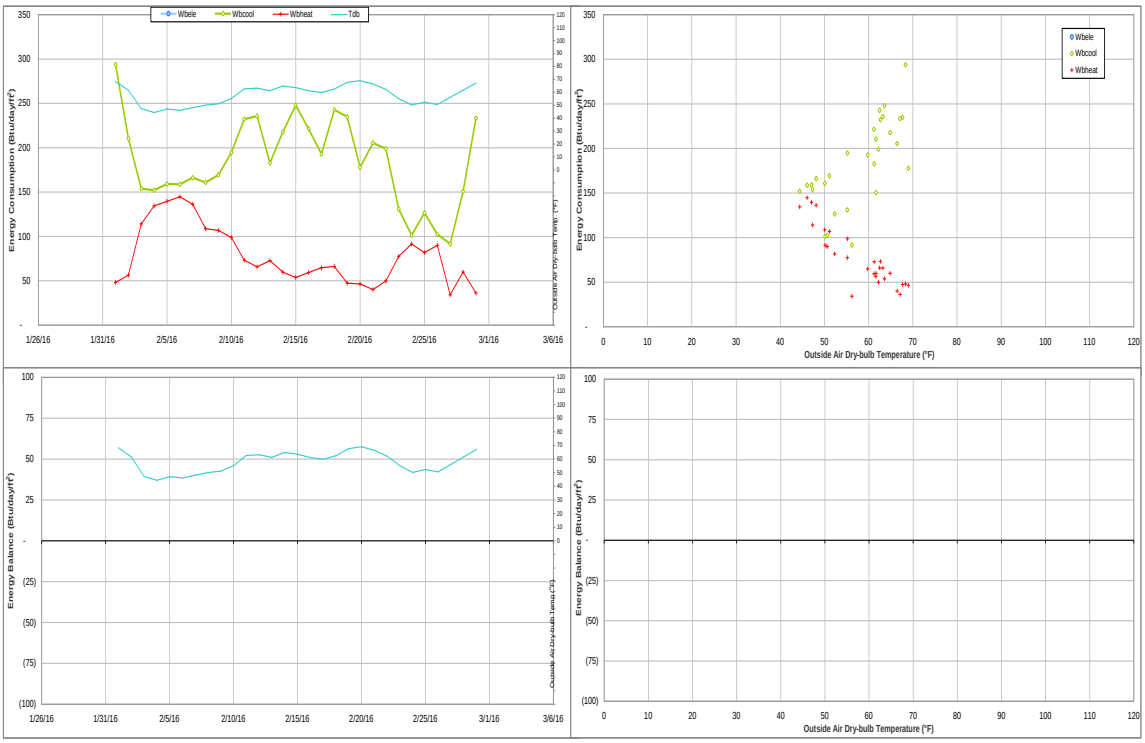


Figure IV-14 Bright Football Complex TAMU BLDG # 361 Energy Balance Plot during February 2016

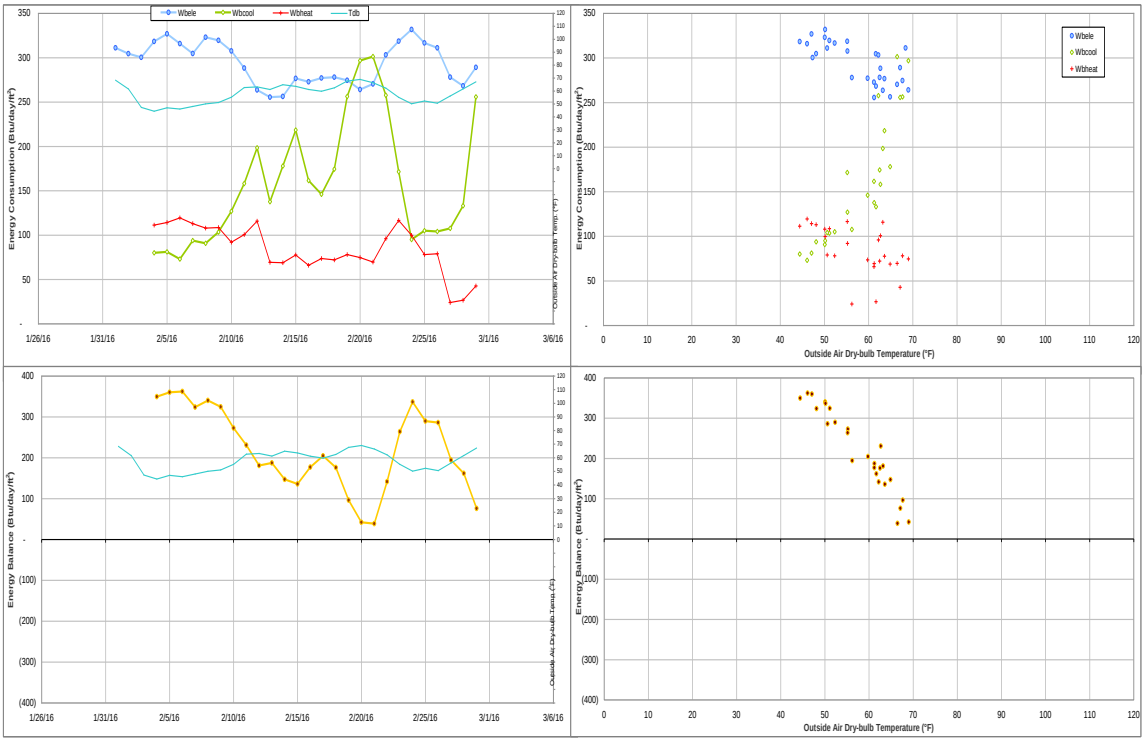


Figure IV-15 Kyle Field TAMU BLDG # 367 Energy Balance Plot during February 2016

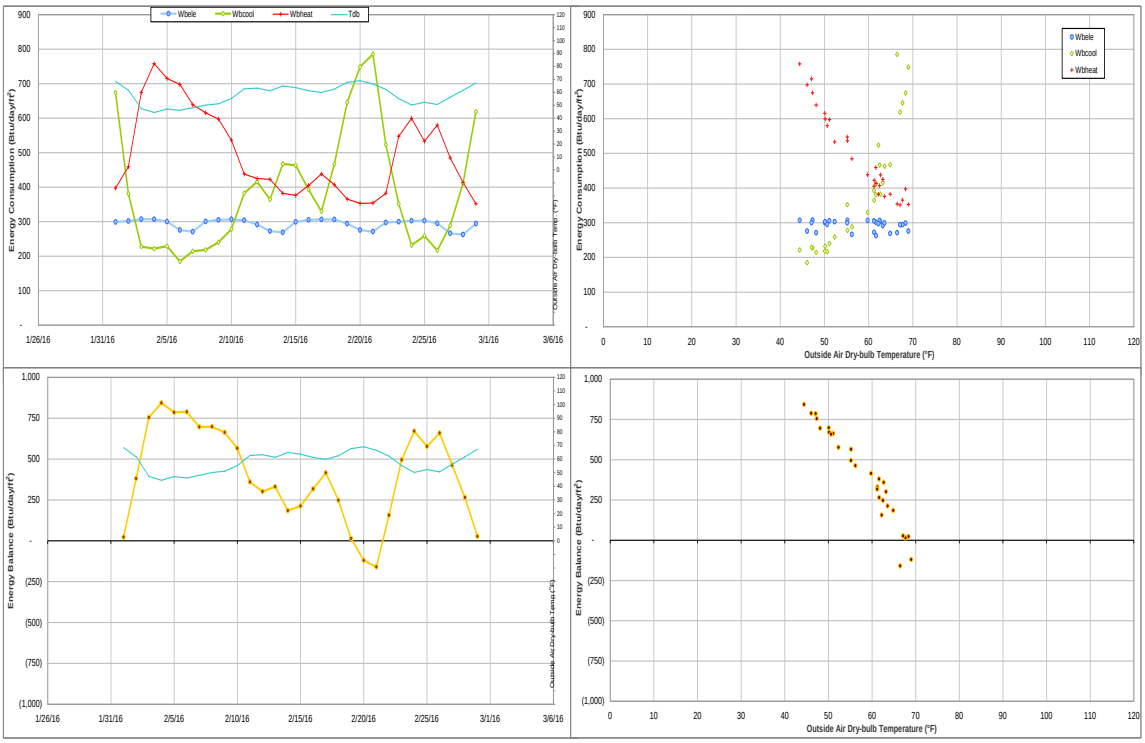


Figure IV-16 Chemistry Building Addition TAMU BLDG # 376 Energy Balance Plot during February 2016

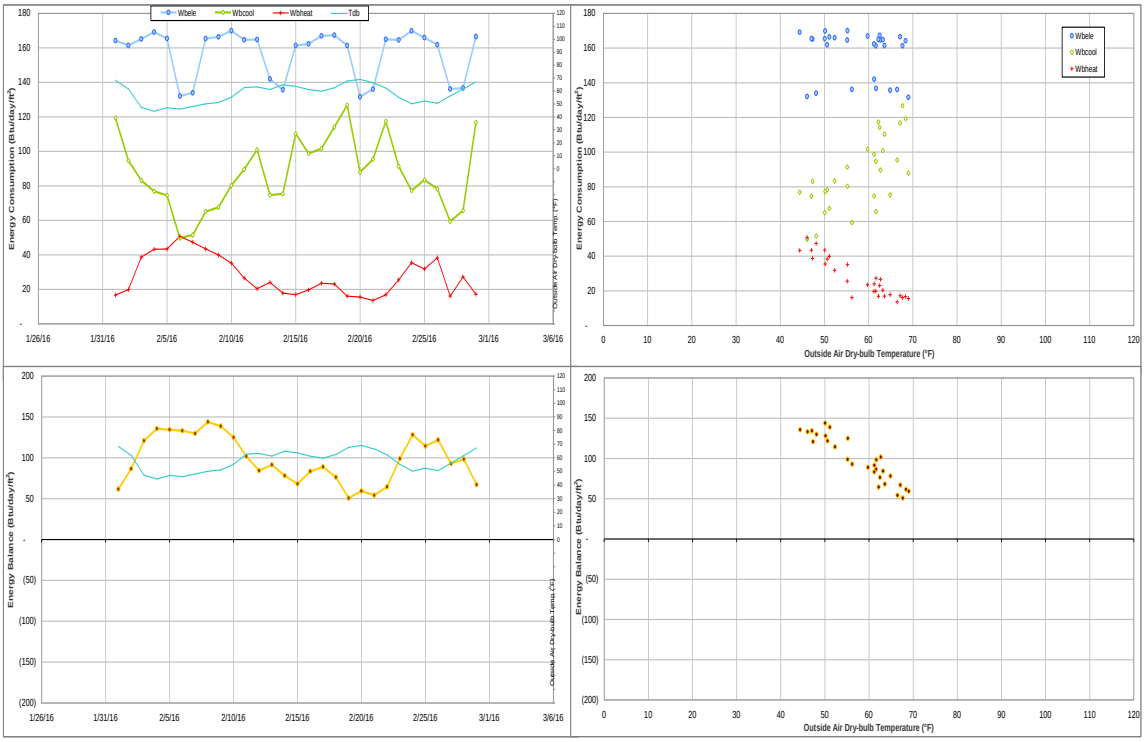


Figure IV-17 Koldus Building TAMU BLDG # 383 Energy Balance Plot during February 2016

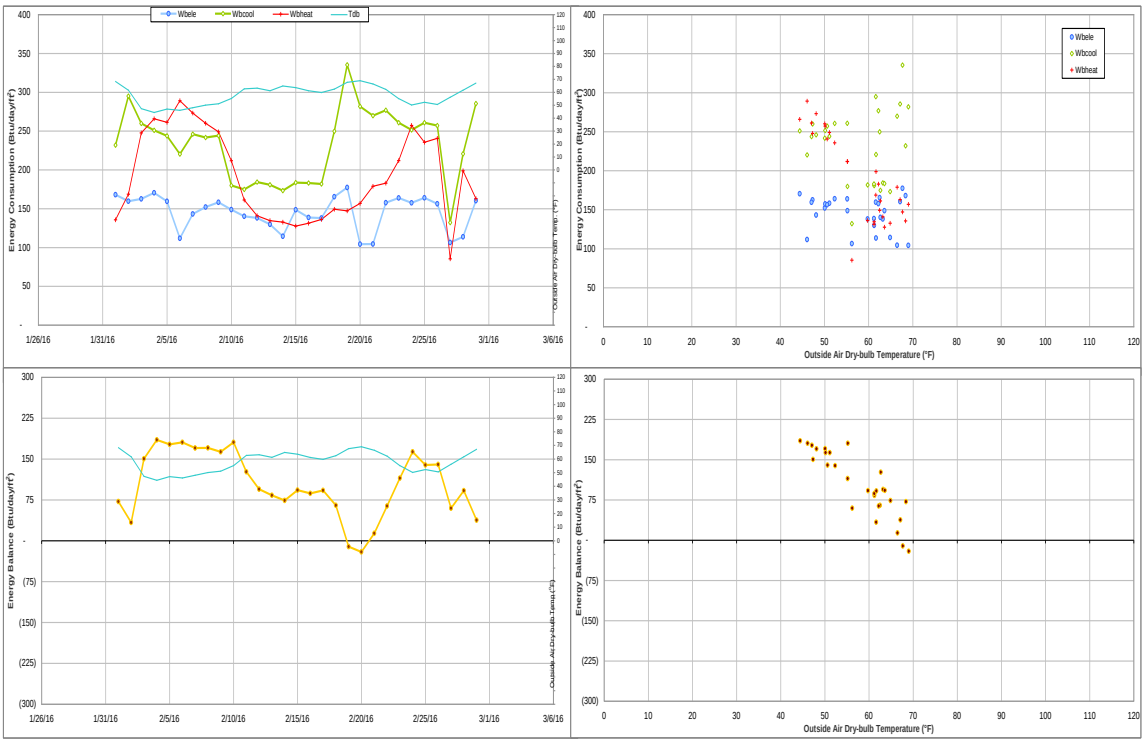


Figure IV-18 Sanders Corps of Cadets Center TAMU BLDG # 384 Energy Balance Plot during February 2016

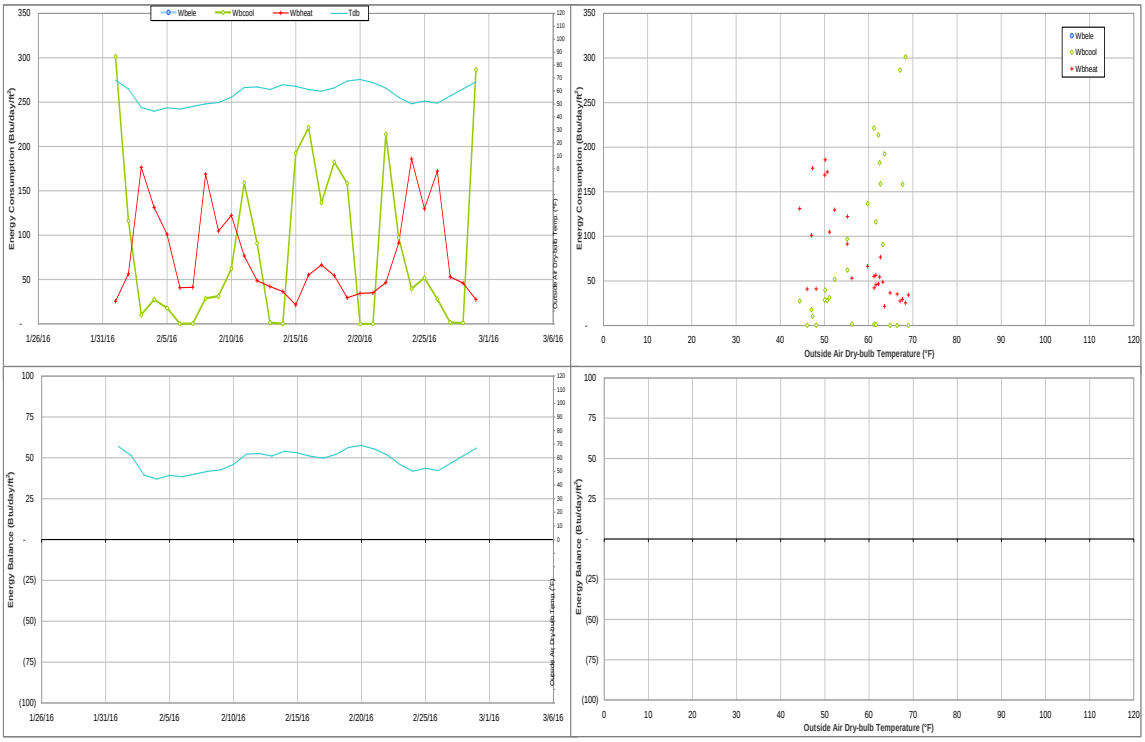


Figure IV-19 CE TTI Office & Lab Building - Pi R Square TAMU BLDG # 385 Energy Balance Plot during February 2016

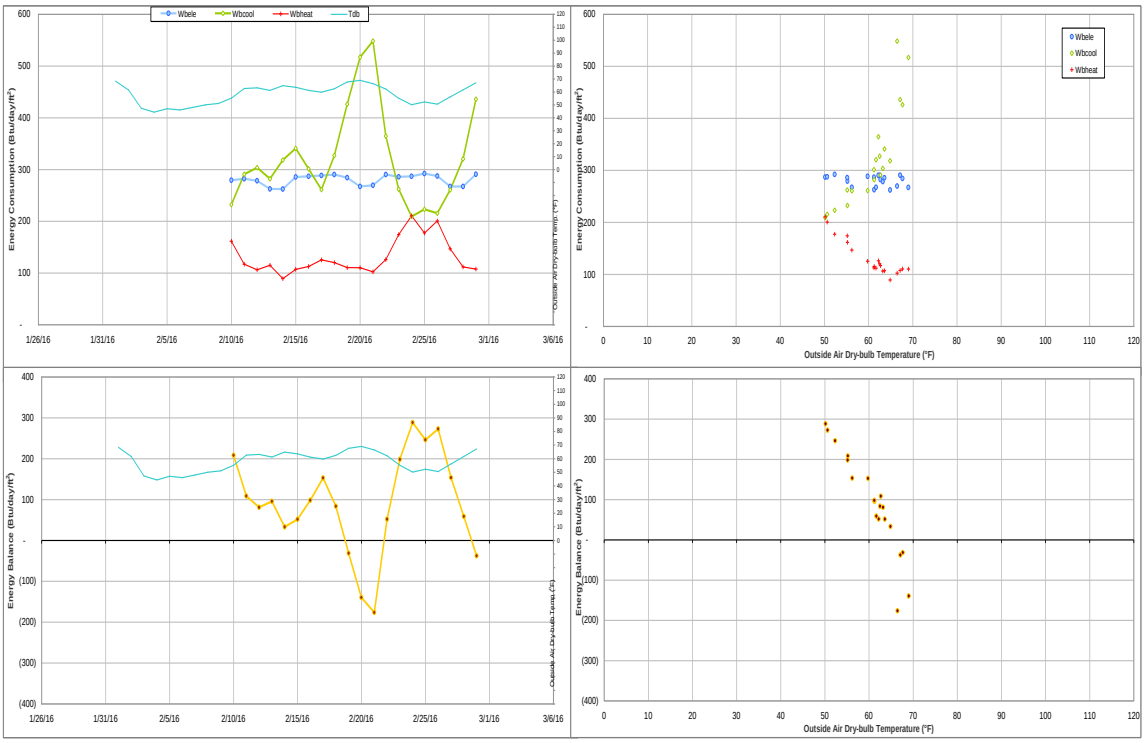


Figure IV-20 Jack E. Brown Chemical Engineering Building TAMU BLDG # 386 Energy Balance Plot during February 2016

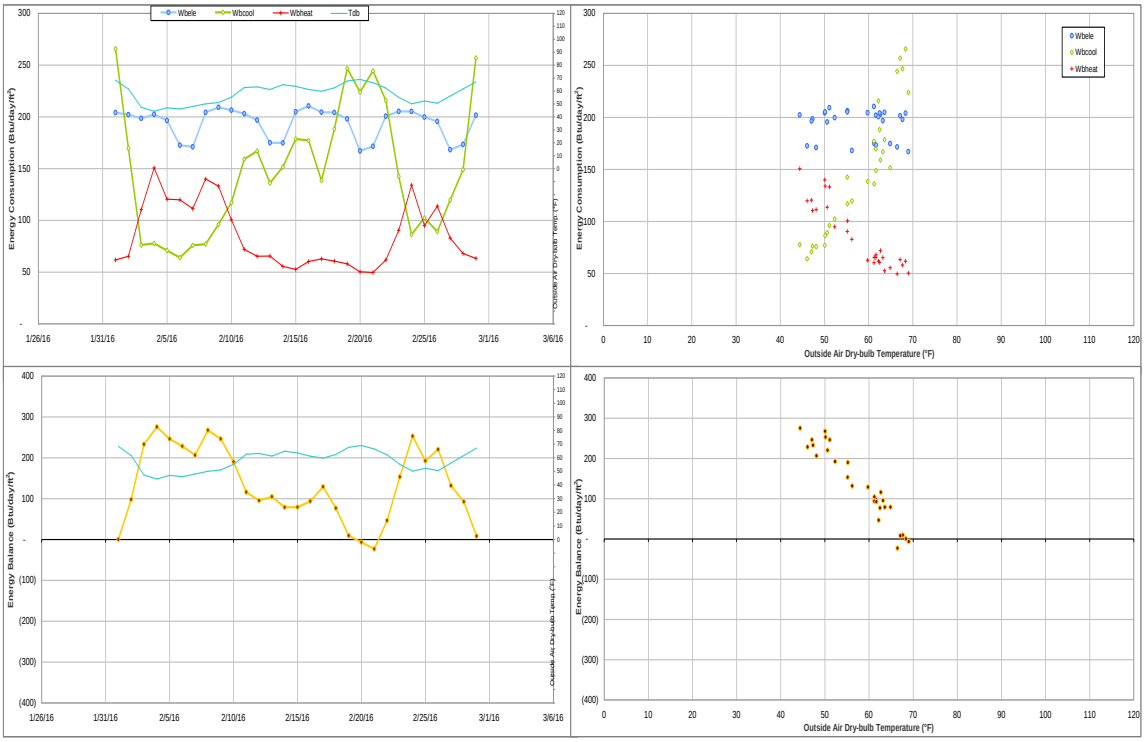


Figure IV-21 Richardson Petroleum Engineering Building TAMU BLDG # 387 Energy Balance Plot during February 2016

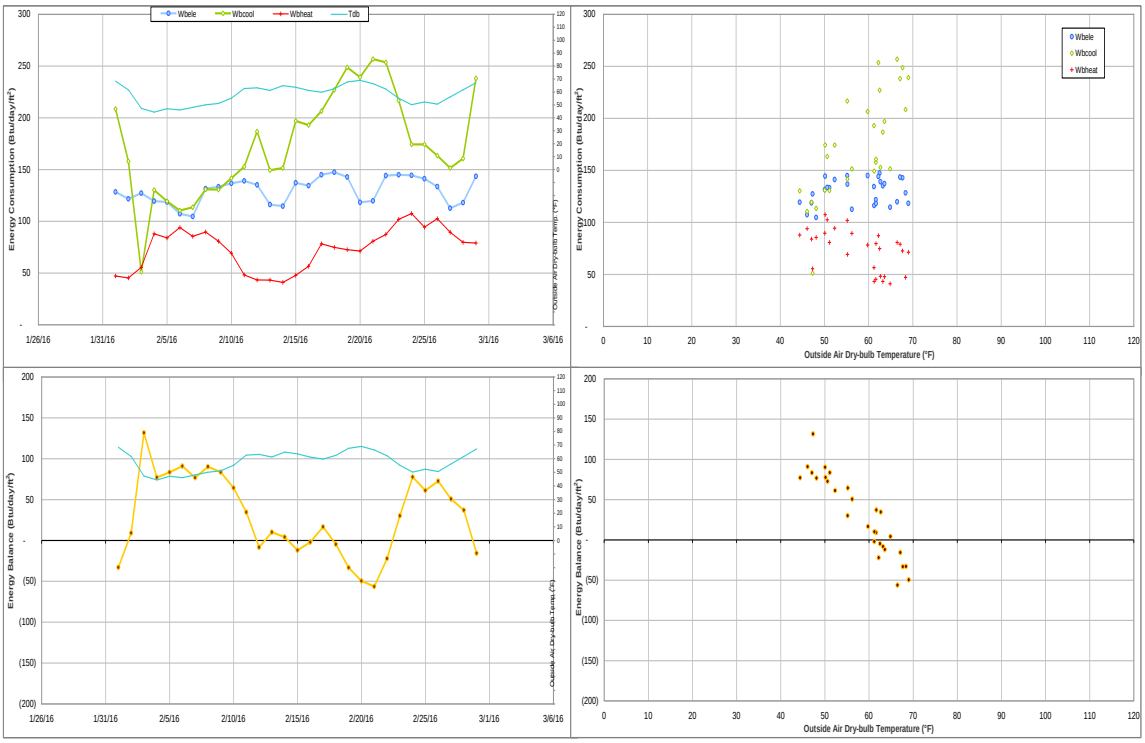


Figure IV-22 James J. Cain'51 and Mechanical Engineering Office Building TAMU BLDG # 391 Energy Balance Plot during February 2016

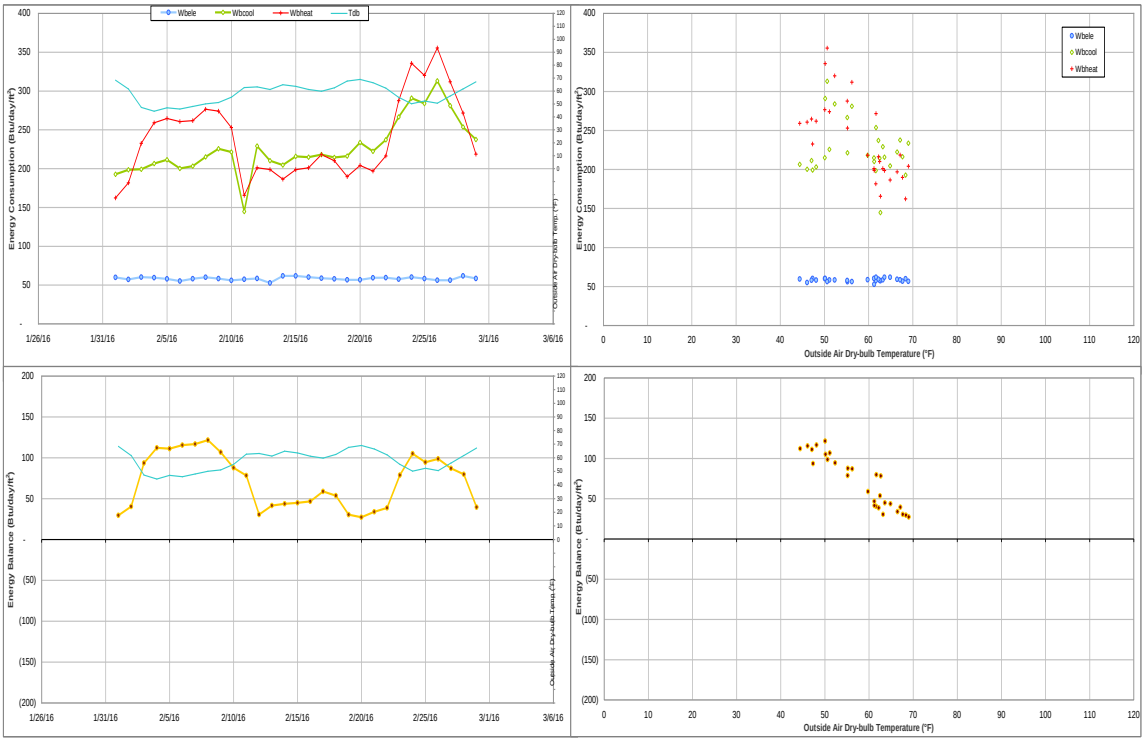


Figure IV-23 Underwood Residence Hall TAMU BLDG # 394 Energy Balance Plot during February 2016

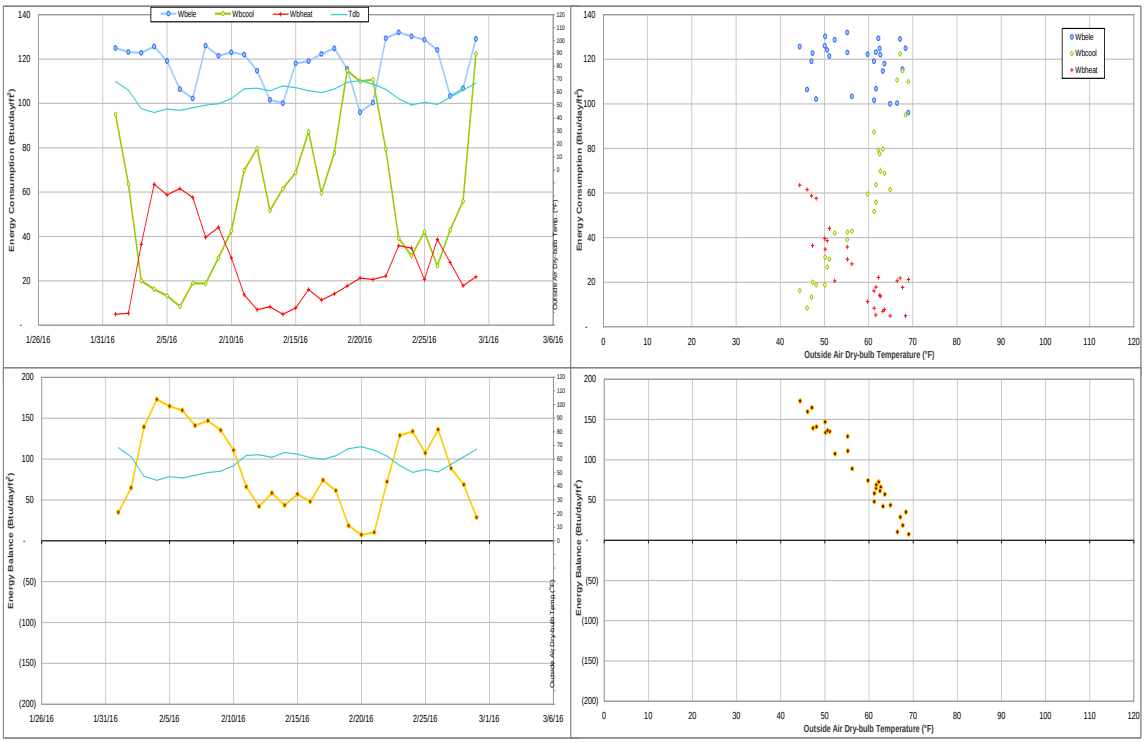


Figure IV-24 Langford Architecture Center Building A TAMU BLDG # 398 Energy Balance Plot during February 2016

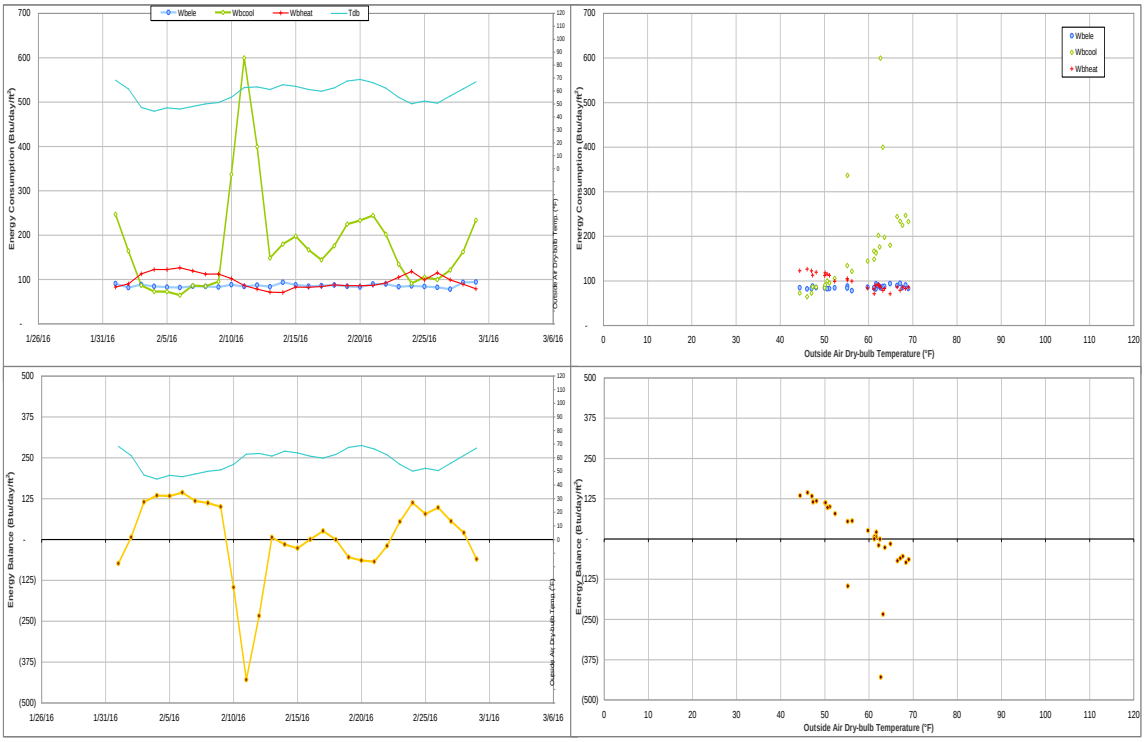


Figure IV-25 Lacy Hall - Dorm 6, Harrell Hall and Leadership Learning Center TAMU BLDG # 405-407-1402 Energy Balance Plot during February 2016

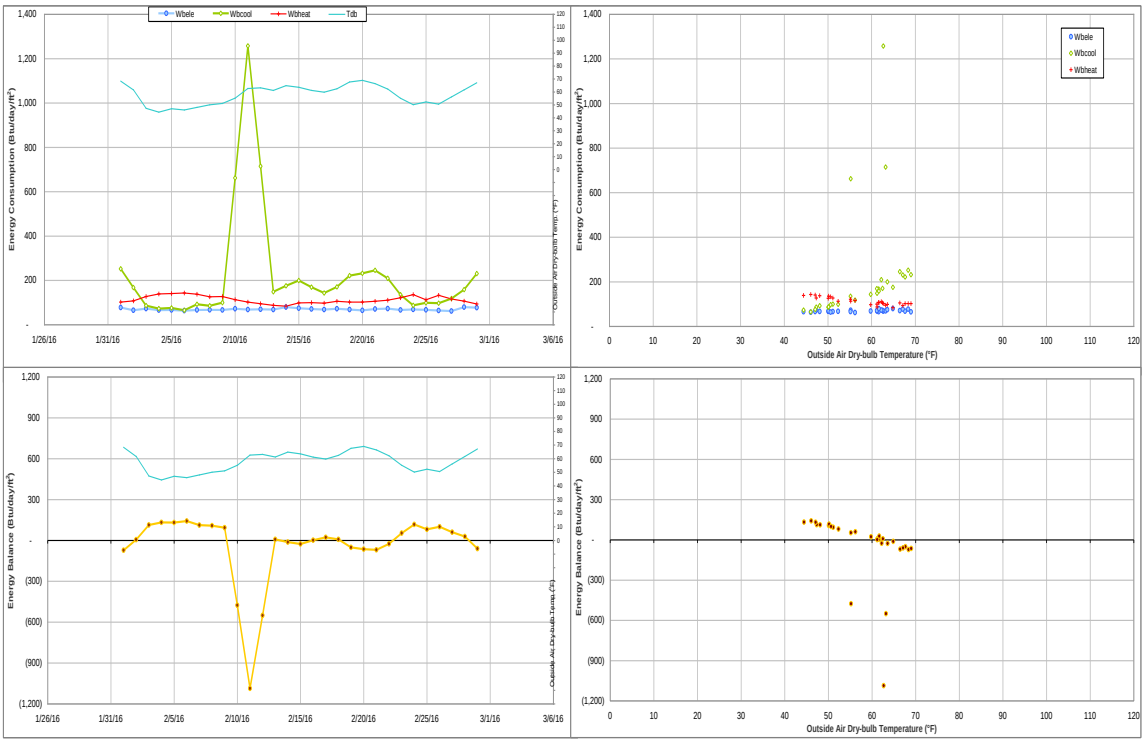


Figure IV-26 Lacy Hall - Dorm 6 TAMU BLDG # 405 Energy Balance Plot during February 2016

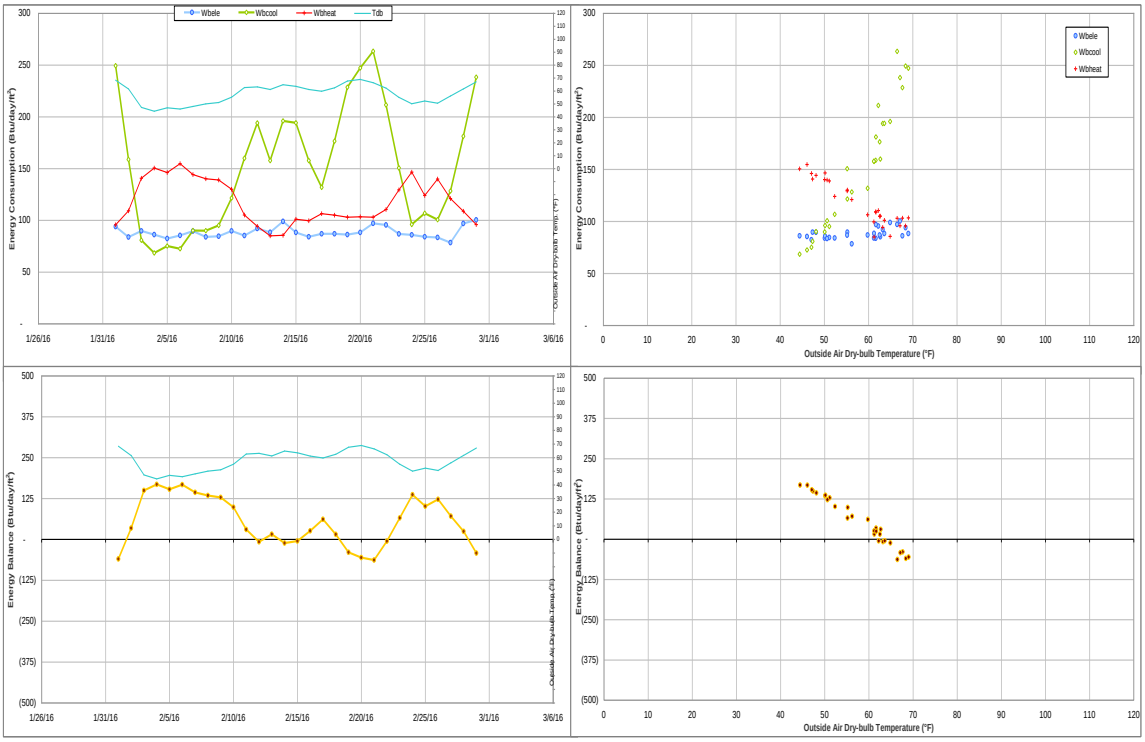


Figure IV-27 Harrell Hall - Dorm 8 TAMU BLDG # 407 Energy Balance Plot during February 2016

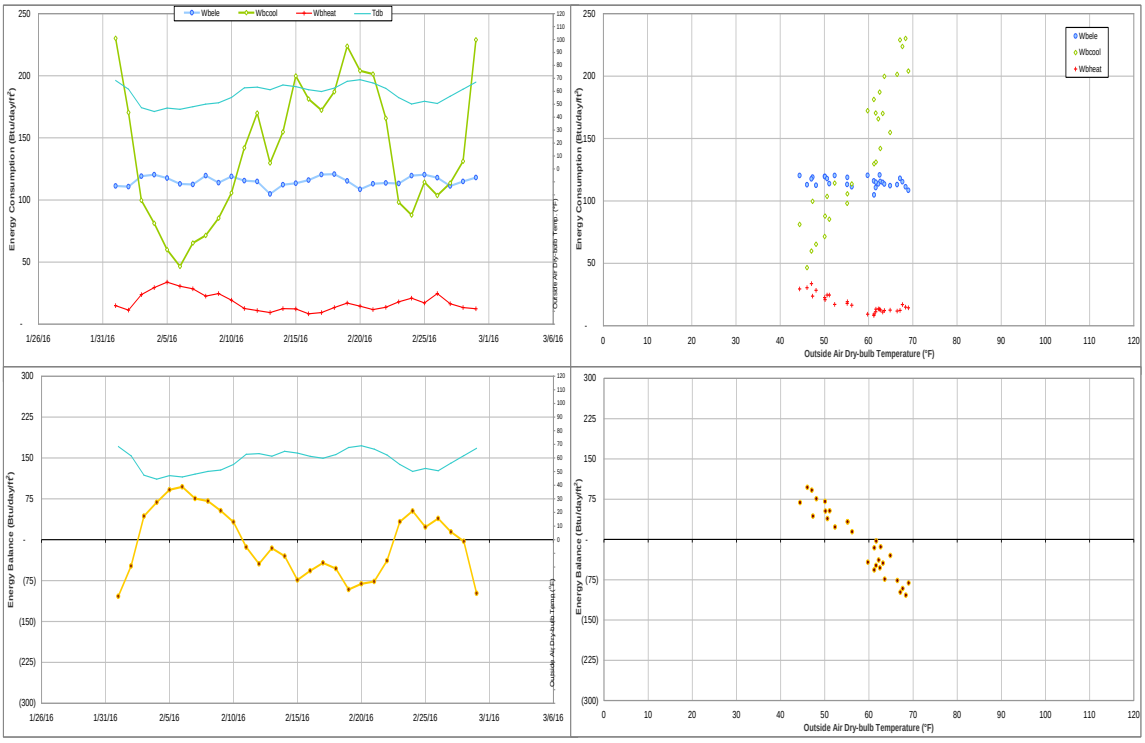


Figure IV-28 Buzbee Leadership Learning Center TAMU BLDG # 1402 Energy Balance Plot during February 2016

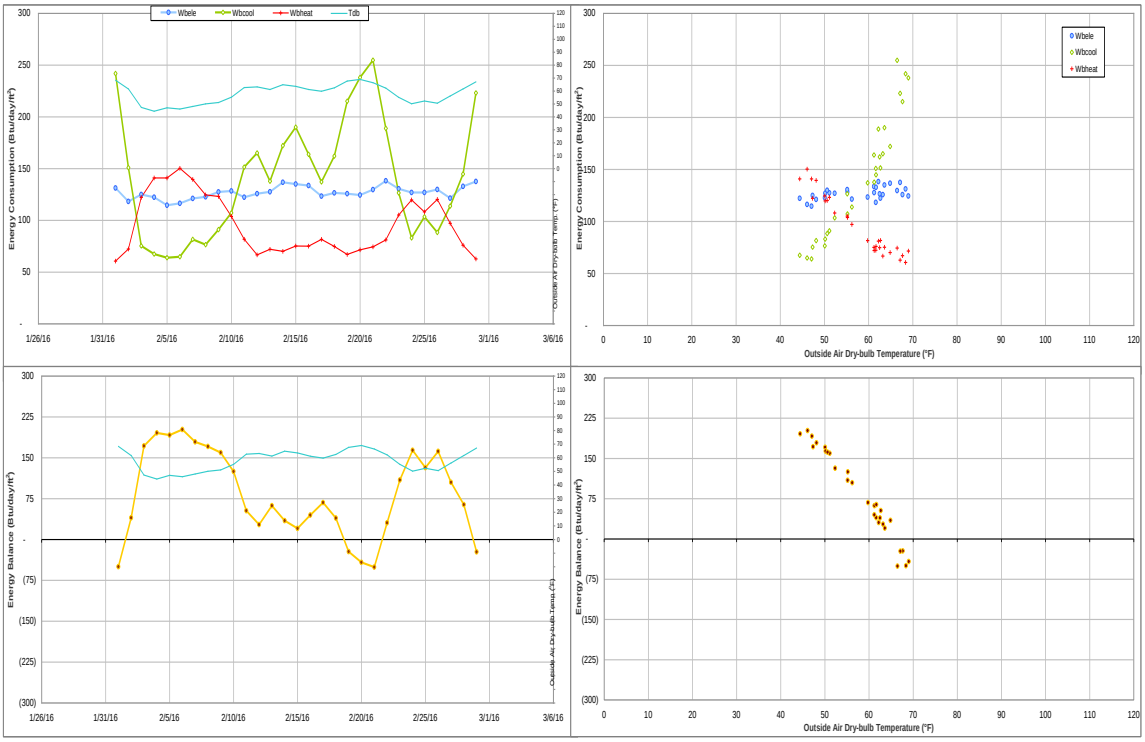


Figure IV-29 Leonard Hall - Dorm 7 and Ash LLC TAMU BLDG # 406-1403 Energy Balance Plot during February 2016

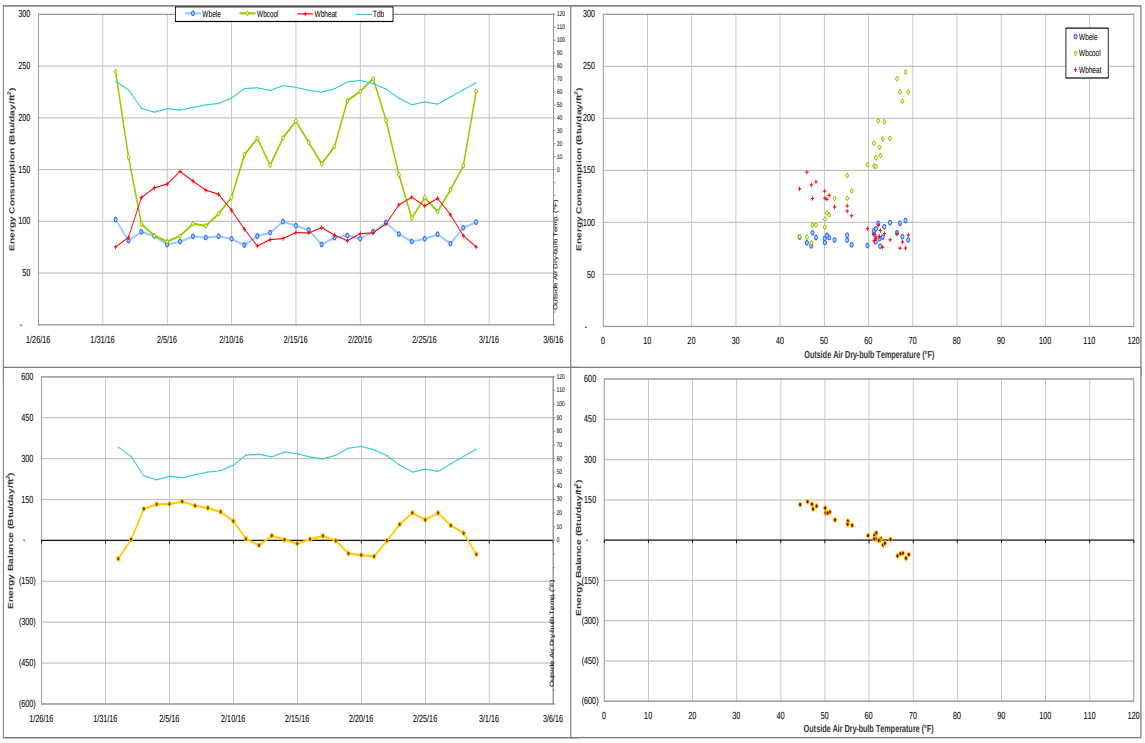


Figure IV-30 Leonard Hall - Dorm 7 TAMU BLDG # 406 Energy Balance Plot during February 2016

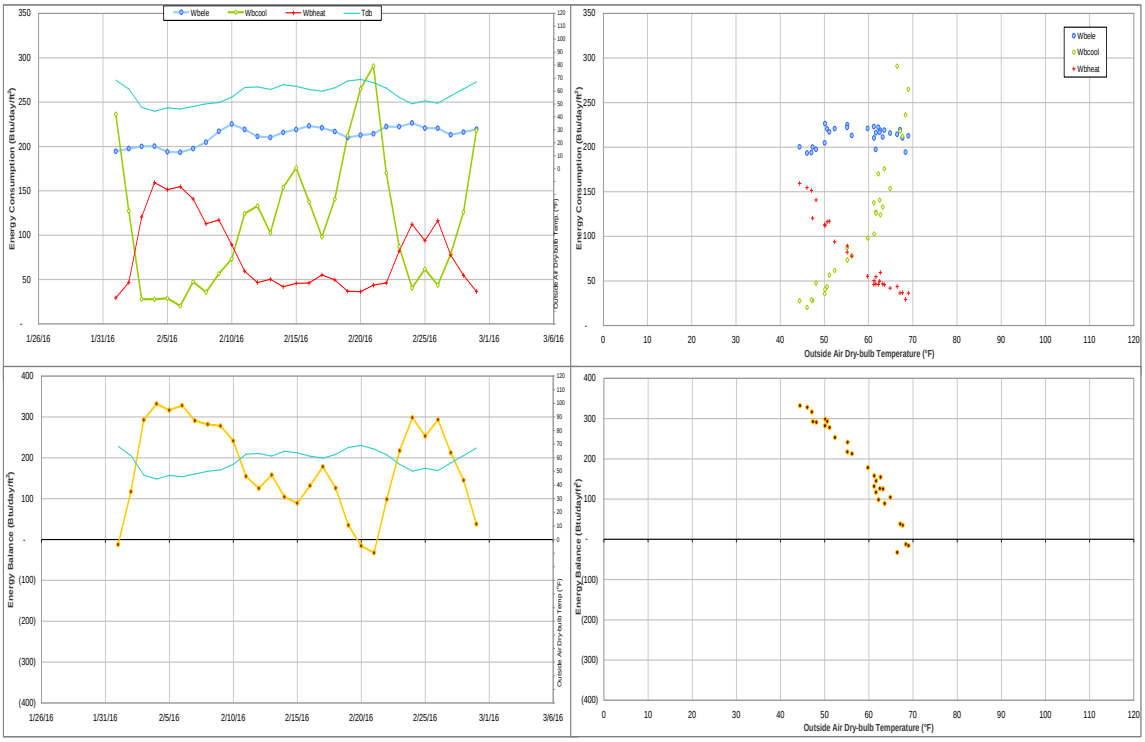


Figure IV-31 H. Grady Ash, Jr. '58 Leadership Learning Center TAMU BLDG # 1403 Energy Balance Plot during February 2016

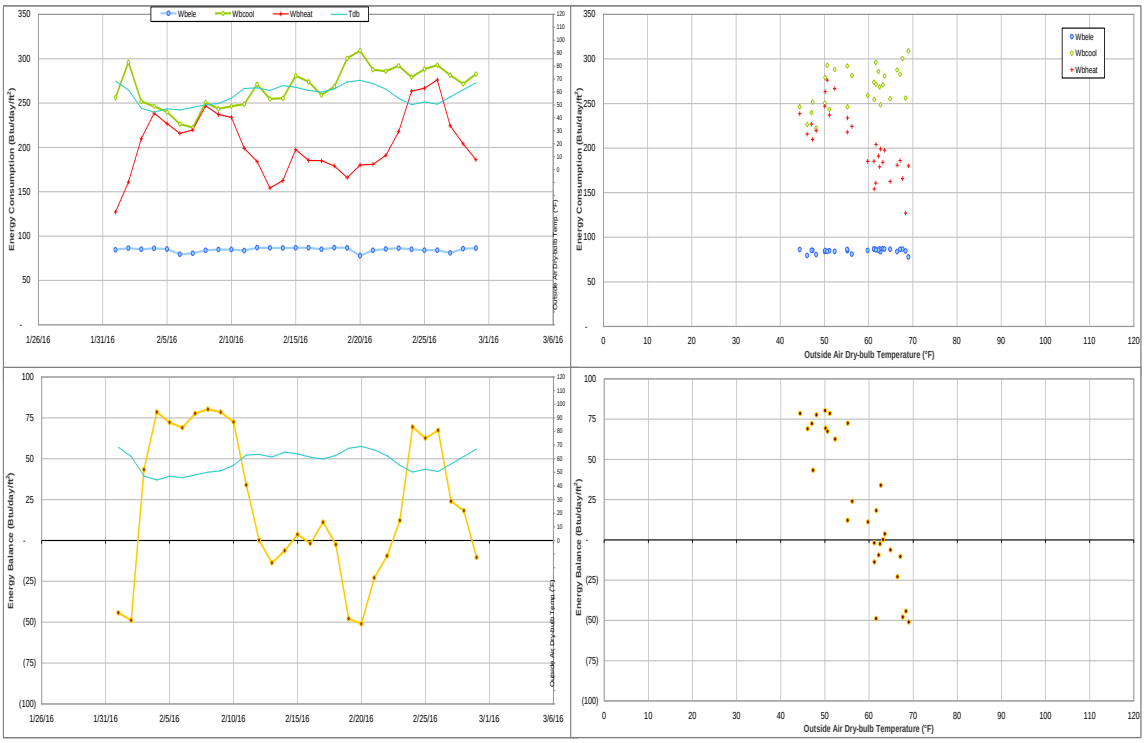


Figure IV-32 Whitely Hall - Dorm 9 TAMU BLDG # 408 Energy Balance Plot during February 2016

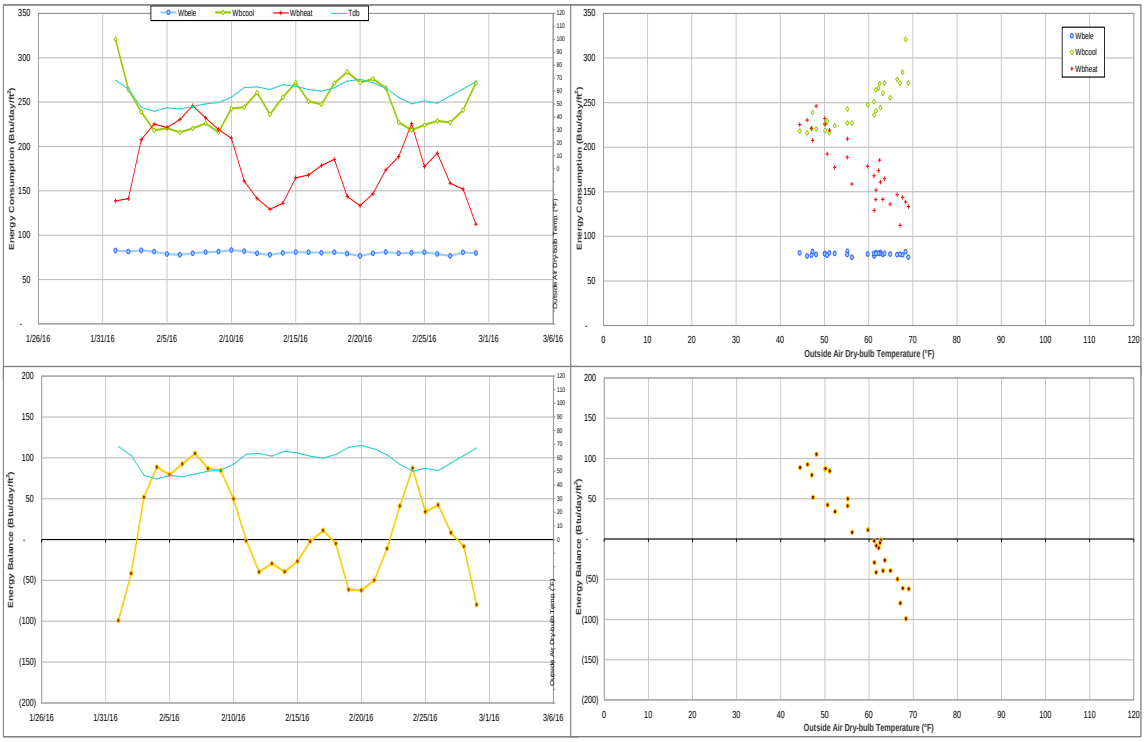


Figure IV-33 White Hall - Dorm 10 TAMU BLDG # 409 Energy Balance Plot during February 2016

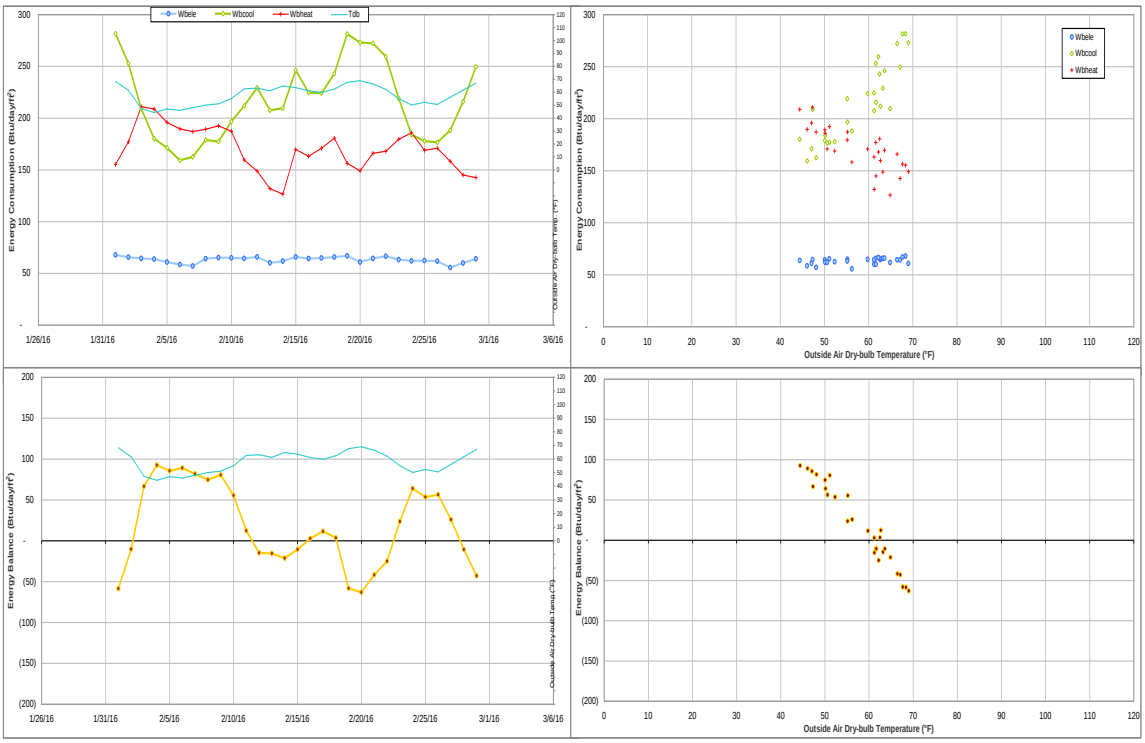


Figure IV-34 Harrington Hall - Dorm 11 TAMU BLDG # 410 Energy Balance Plot during February 2016

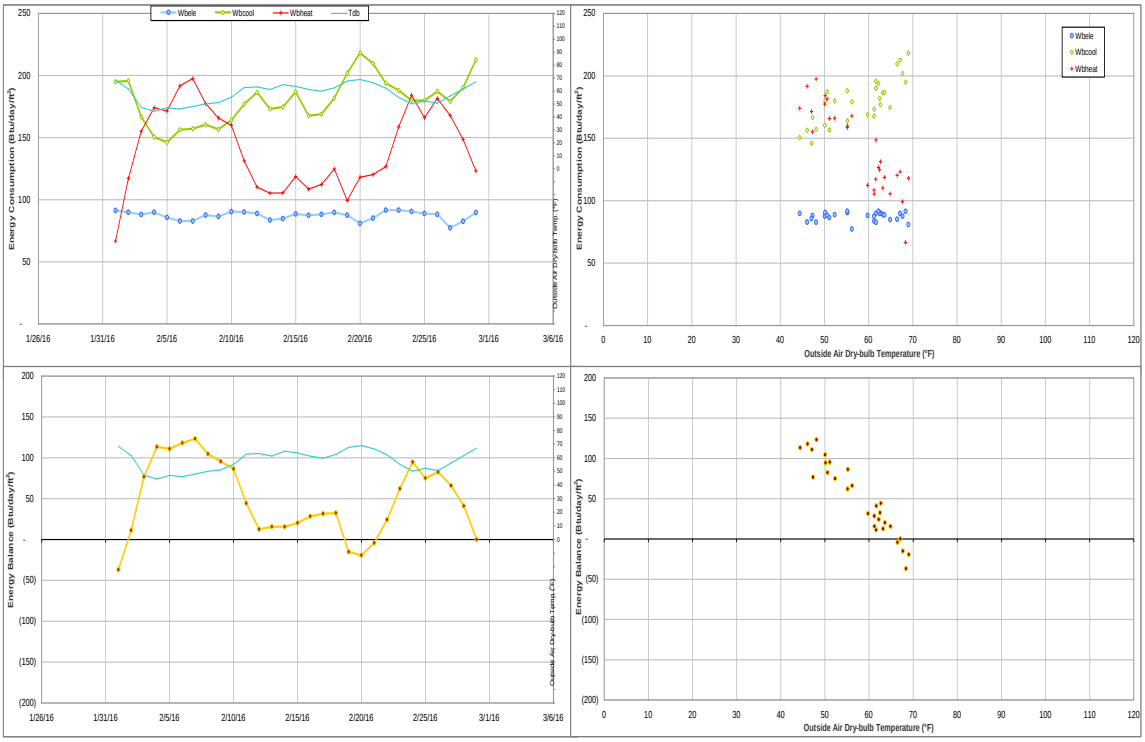


Figure IV-35 Utay Hall - Dorm 12 TAMU BLDG # 411 Energy Balance Plot during February 2016

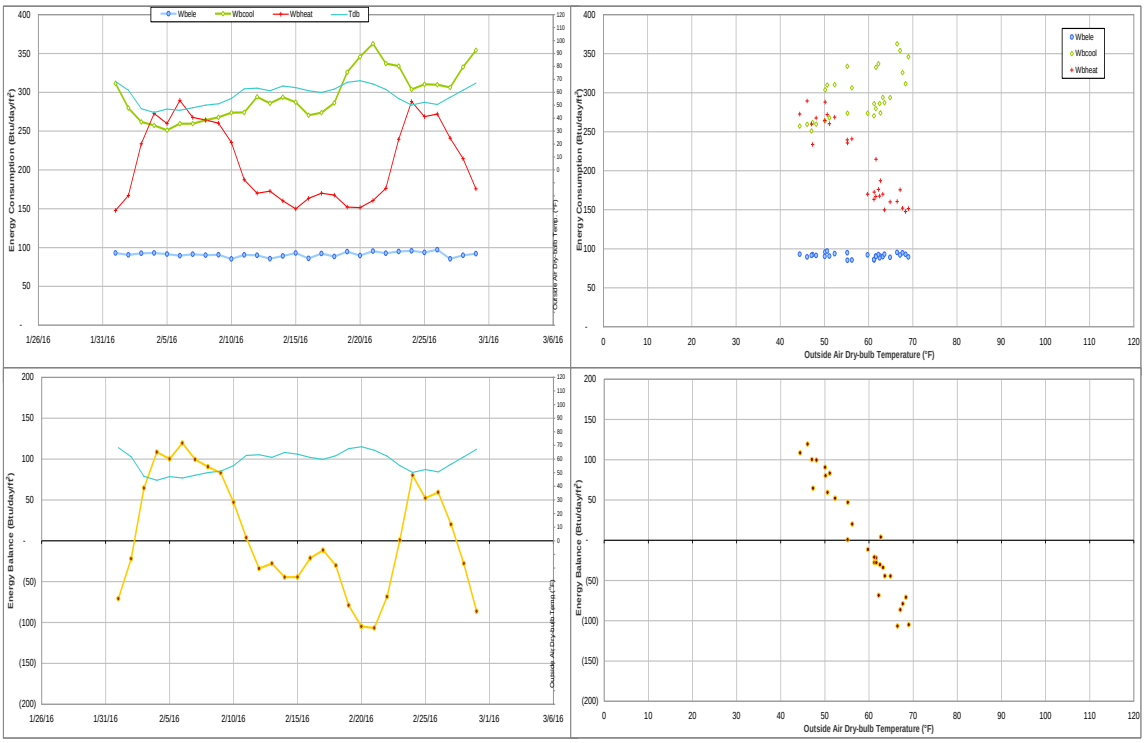


Figure IV-36 Moses Residence Hall TAMU BLDG # 412 Energy Balance Plot during February 2016

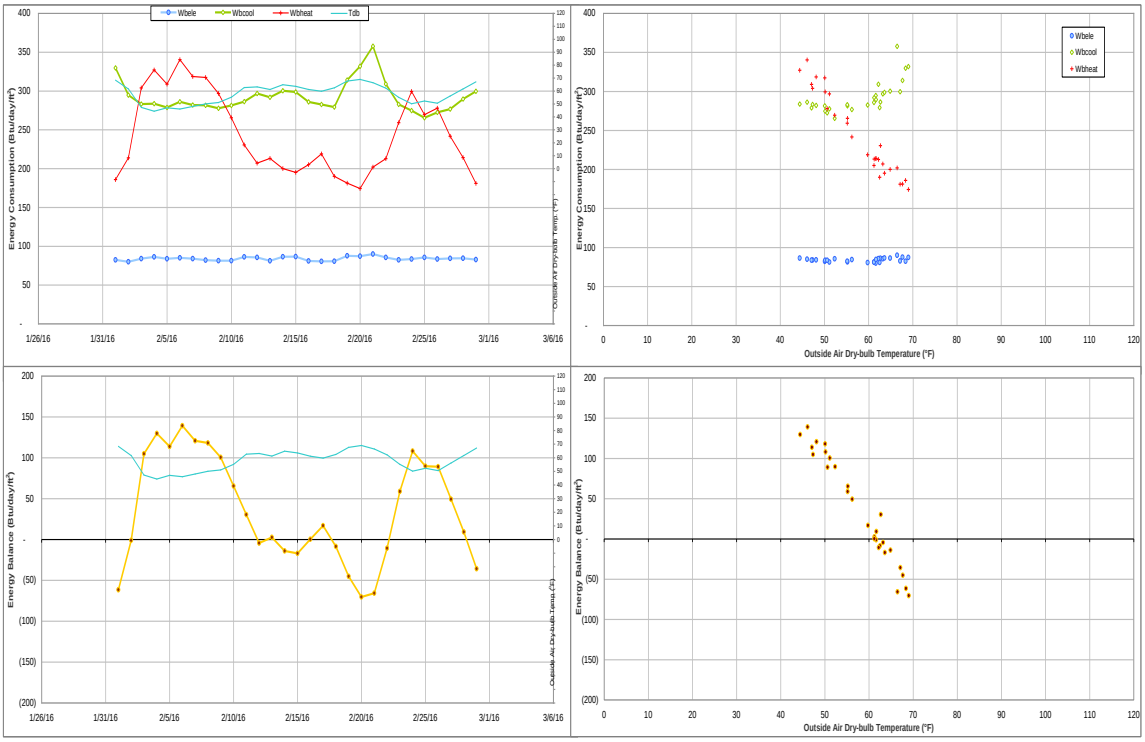


Figure IV-37 Davis-Gary Residence Hall TAMU BLDG # 415 Energy Balance Plot during February 2016

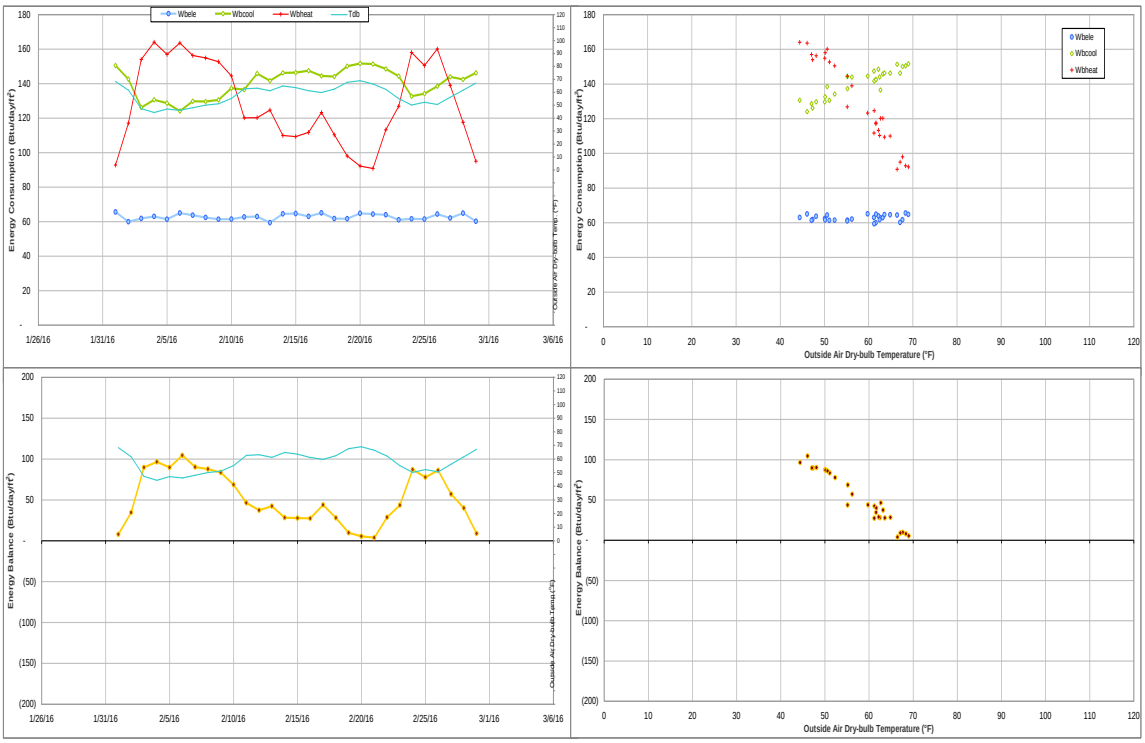


Figure IV-38 Legett Residence Hall TAMU BLDG # 419 Energy Balance Plot during February 2016

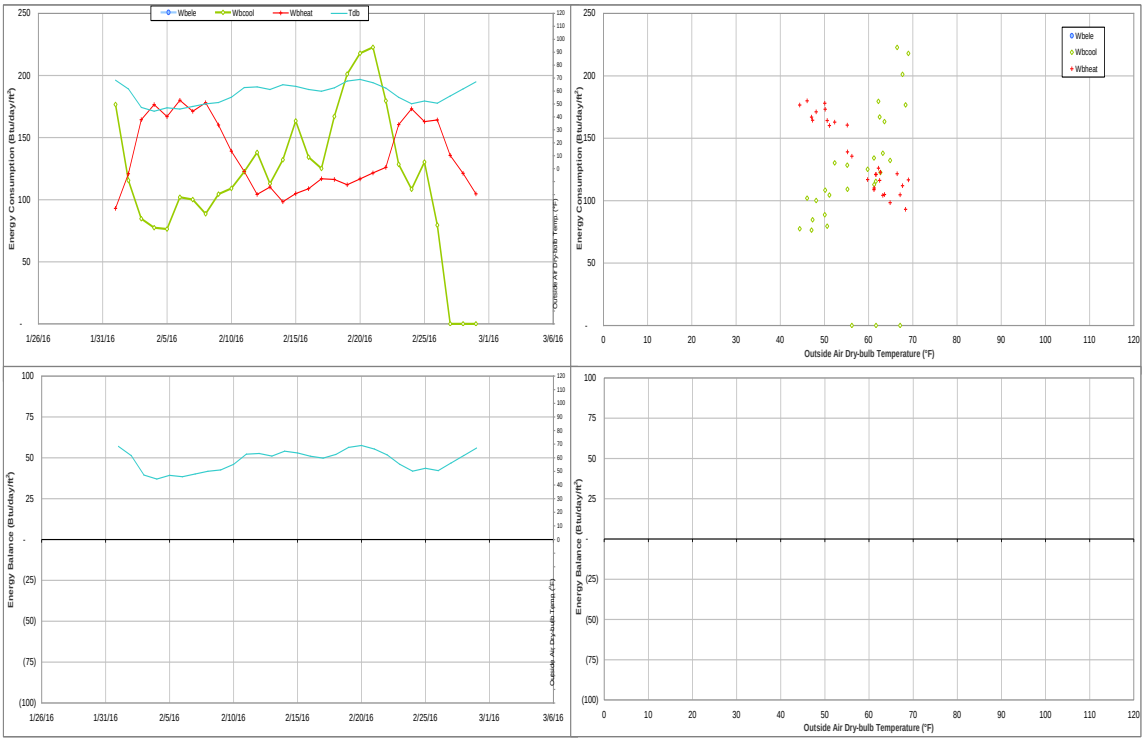


Figure IV-39 Milner Hall TAMU BLDG # 420 Energy Balance Plot during February 2016

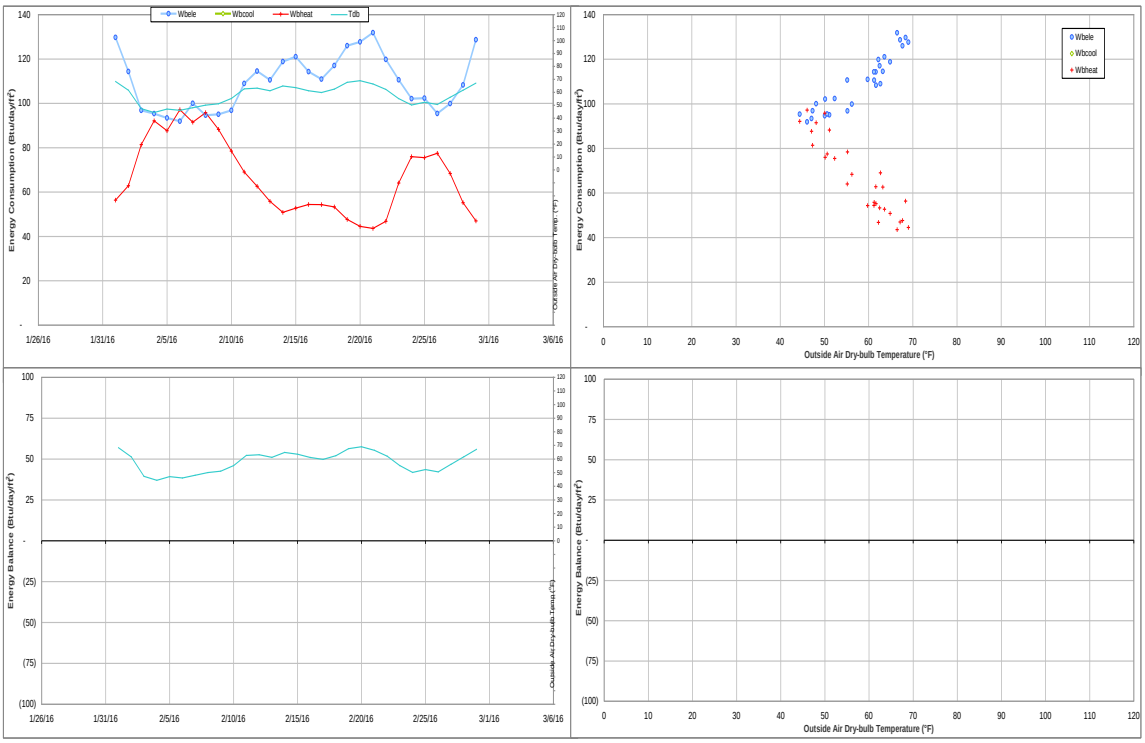


Figure IV-40 Walton Residence Hall TAMU BLDG # 422 Energy Balance Plot during February 2016

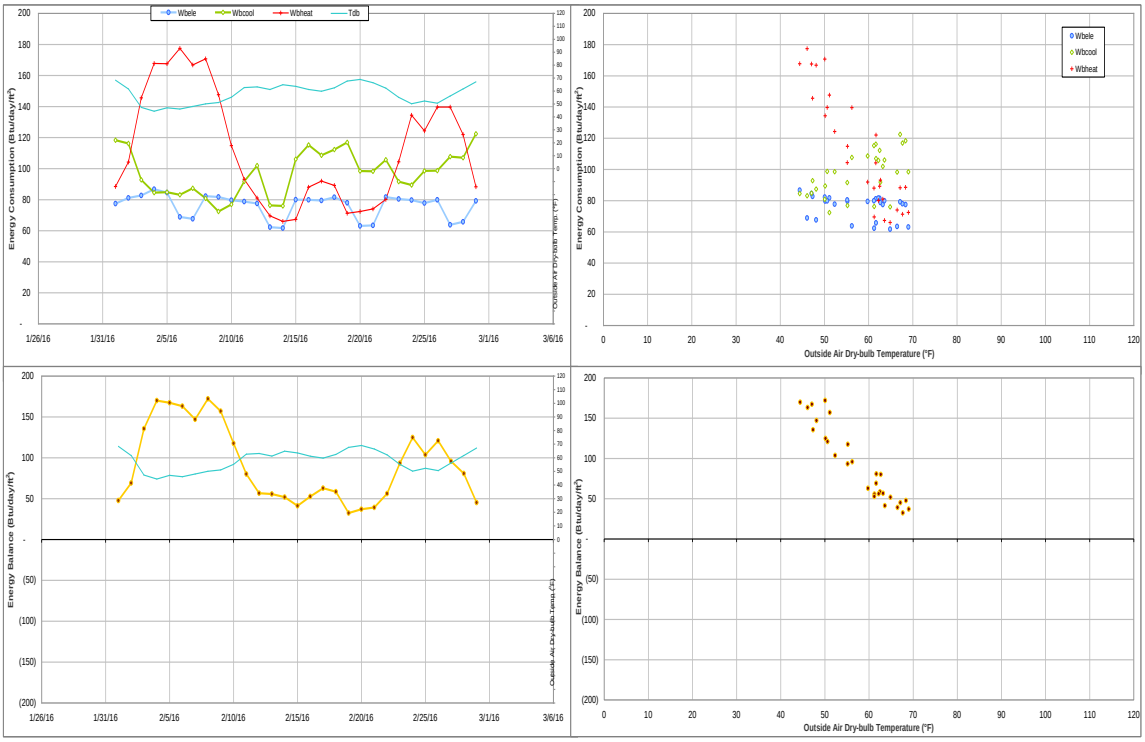


Figure IV-41 Hotard Hall TAMU BLDG # 424 Energy Balance Plot during February 2016

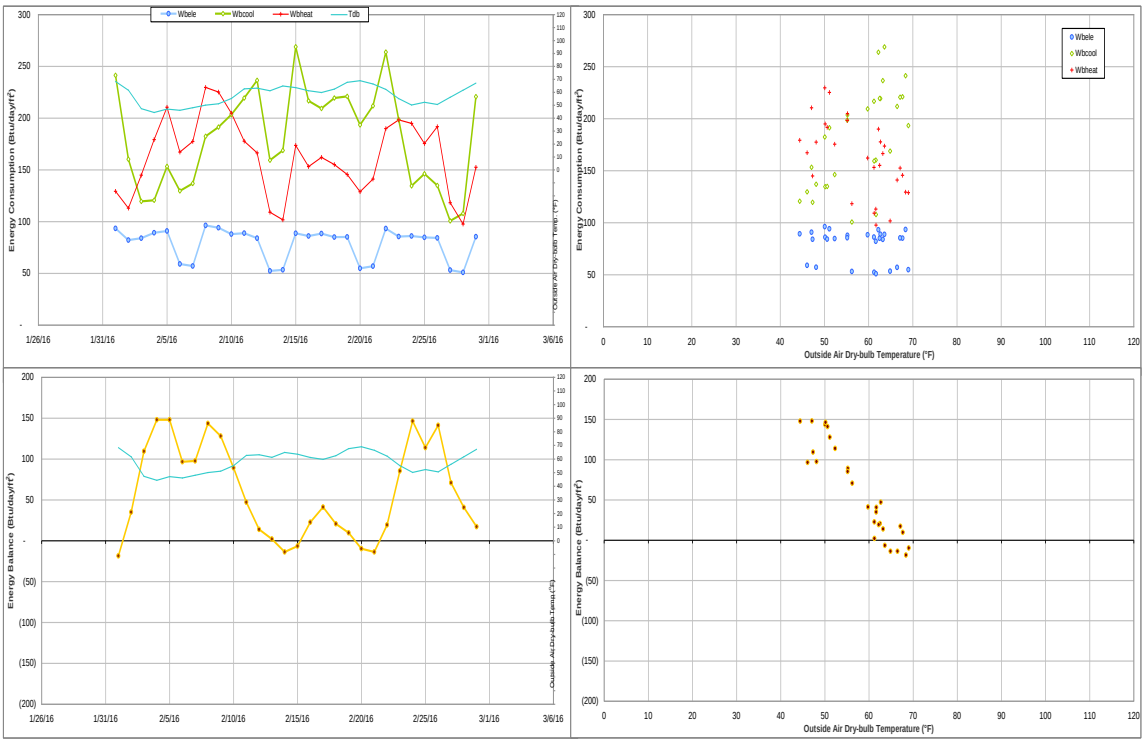


Figure IV-42 Henderson Hall TAMU BLDG # 425 Energy Balance Plot during February 2016

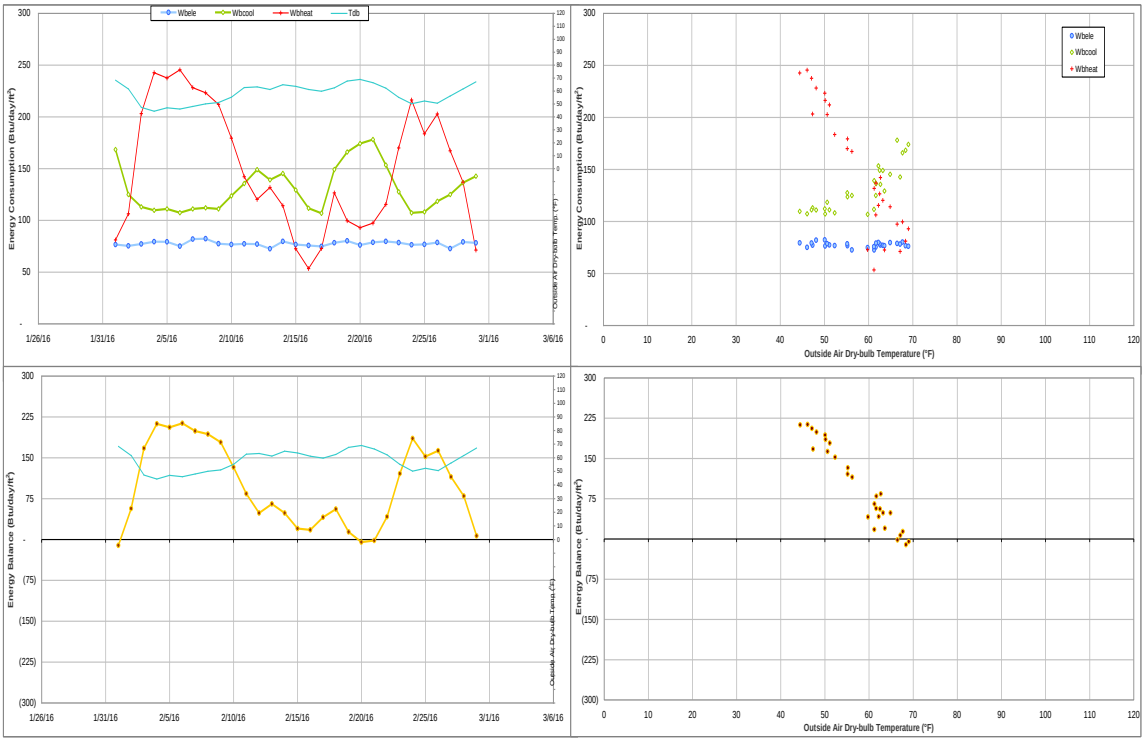


Figure IV-43 FHK Complex TAMU BLDG # 426 Energy Balance Plot during February 2016

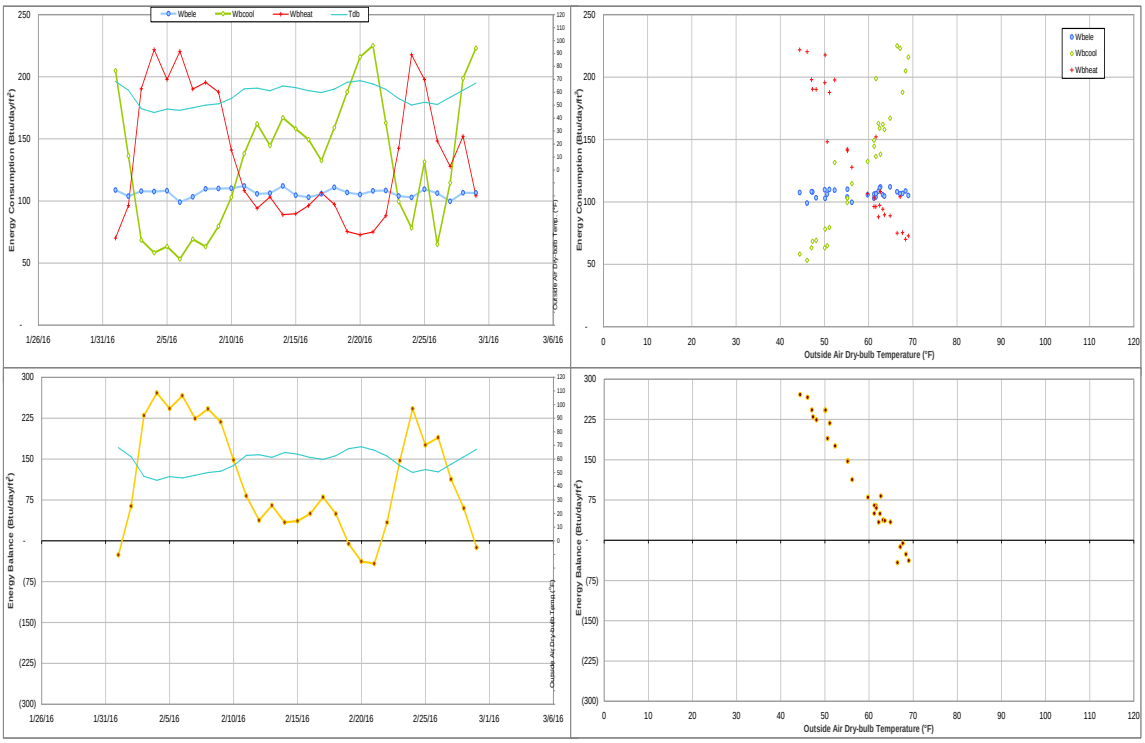


Figure IV-44 Schumacher Residence Hall TAMU BLDG # 430 Energy Balance Plot during February 2016

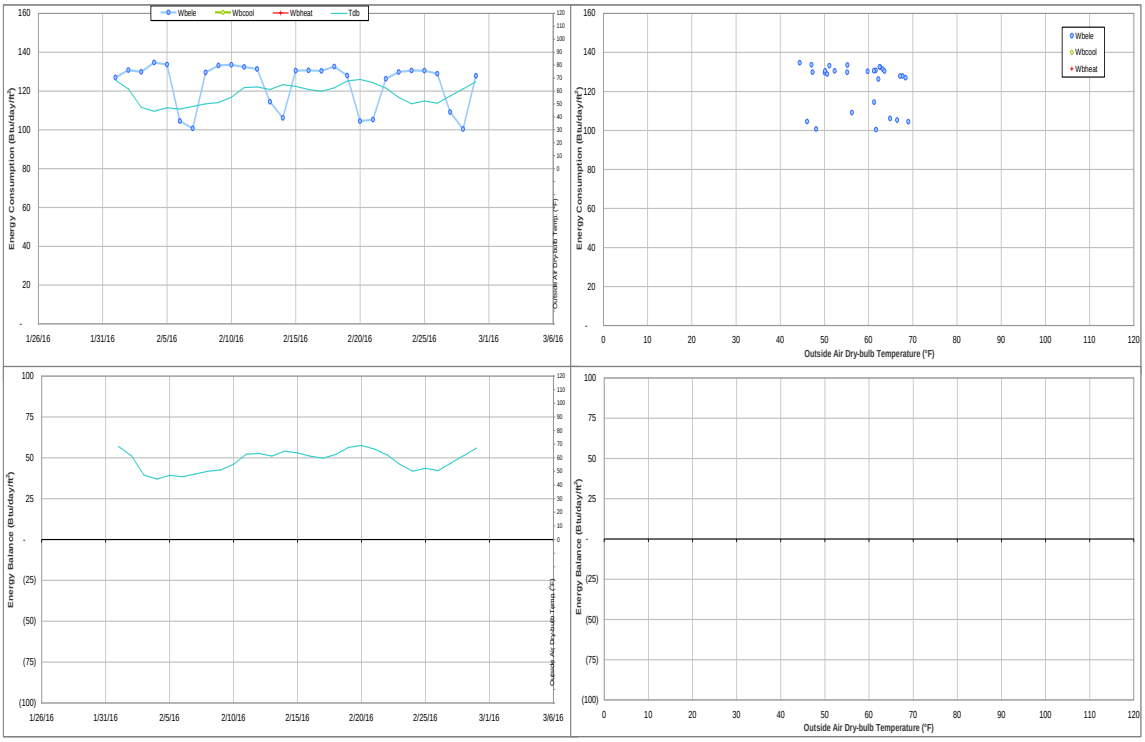


Figure IV-45 Architecture Building C TAMU BLDG # 432 Energy Balance Plot during February 2016

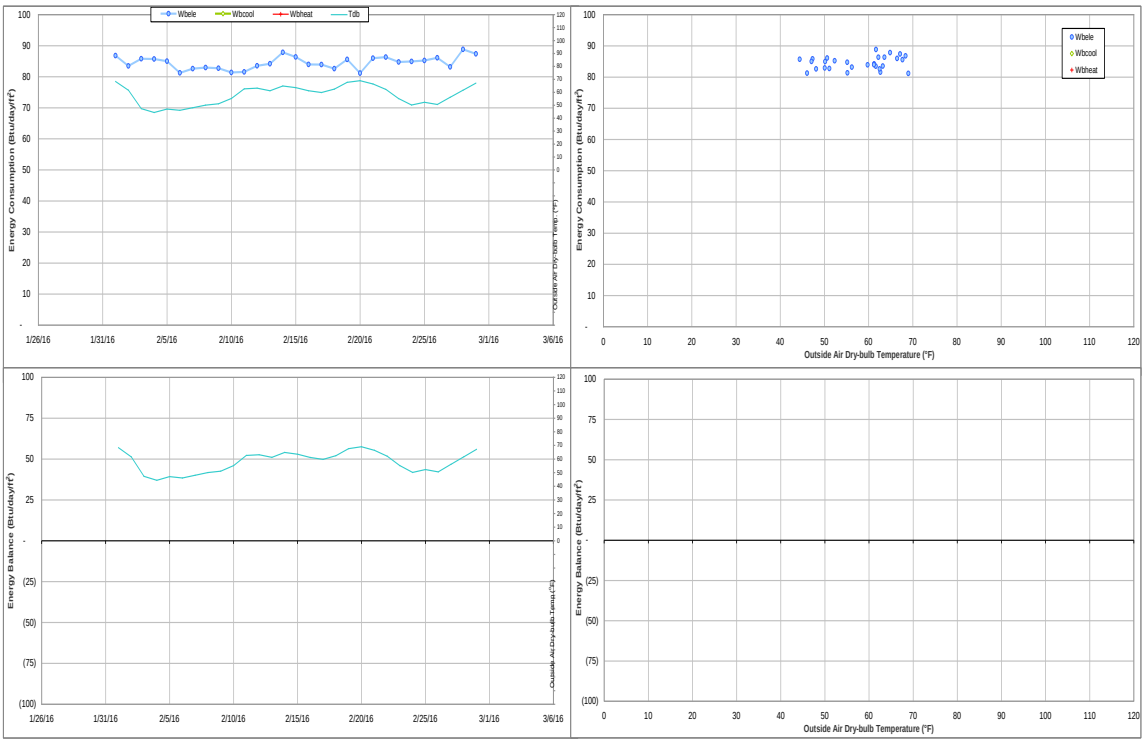


Figure IV-46 Mosher Krueger Dunn Aston TAMU BLDG # 433-441-442-447 Energy Balance Plot during February 2016

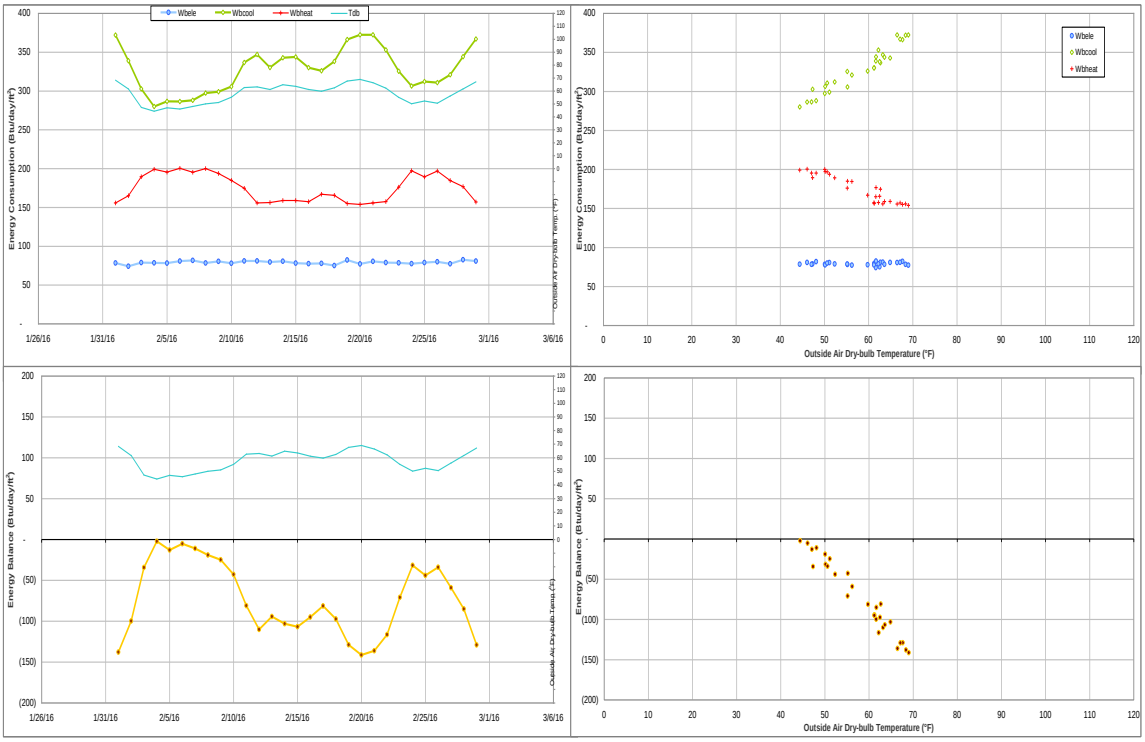


Figure IV-47 Mosher Residence Hall TAMU BLDG # 433 Energy Balance Plot during February 2016

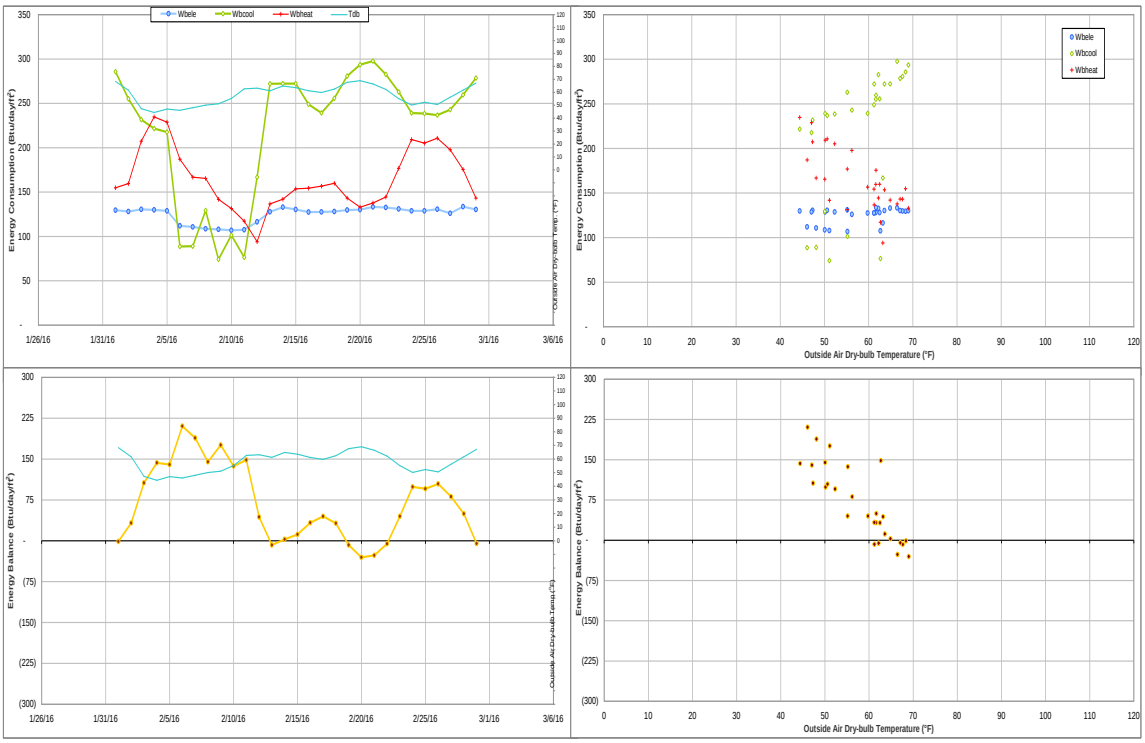


Figure IV-48 Krueger Residence Hall TAMU BLDG # 441 Energy Balance Plot during February 2016

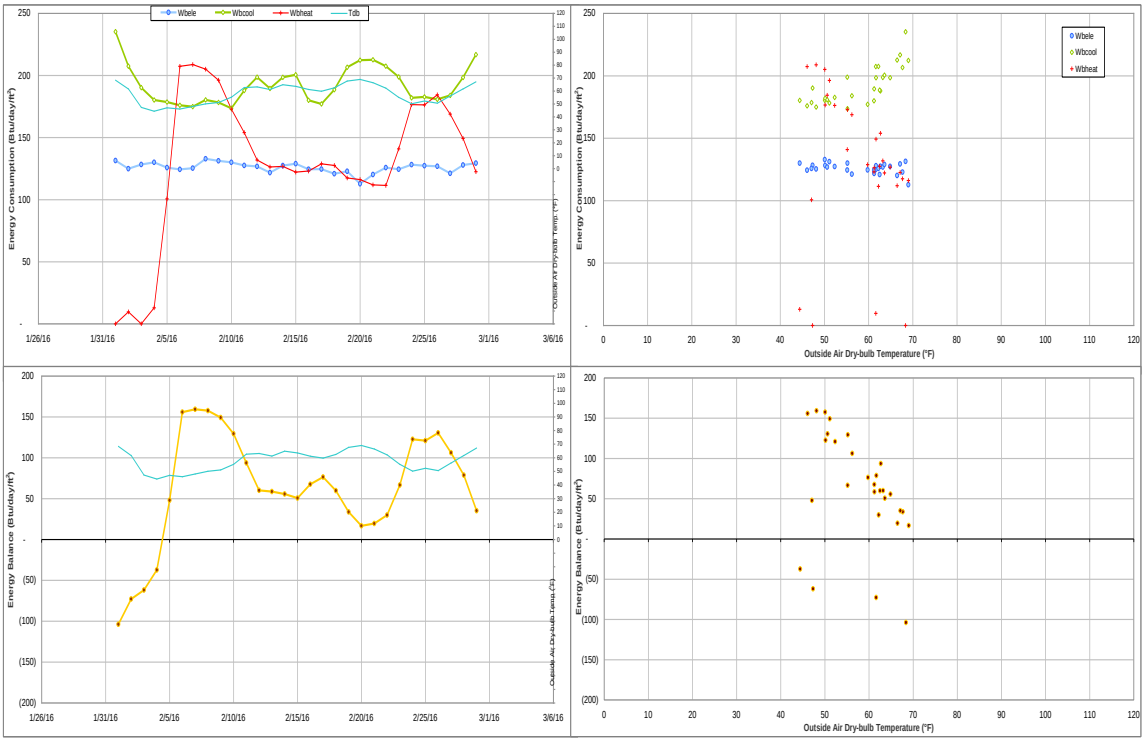


Figure IV-49 Dunn Residence Hall TAMU BLDG # 442 Energy Balance Plot during February 2016

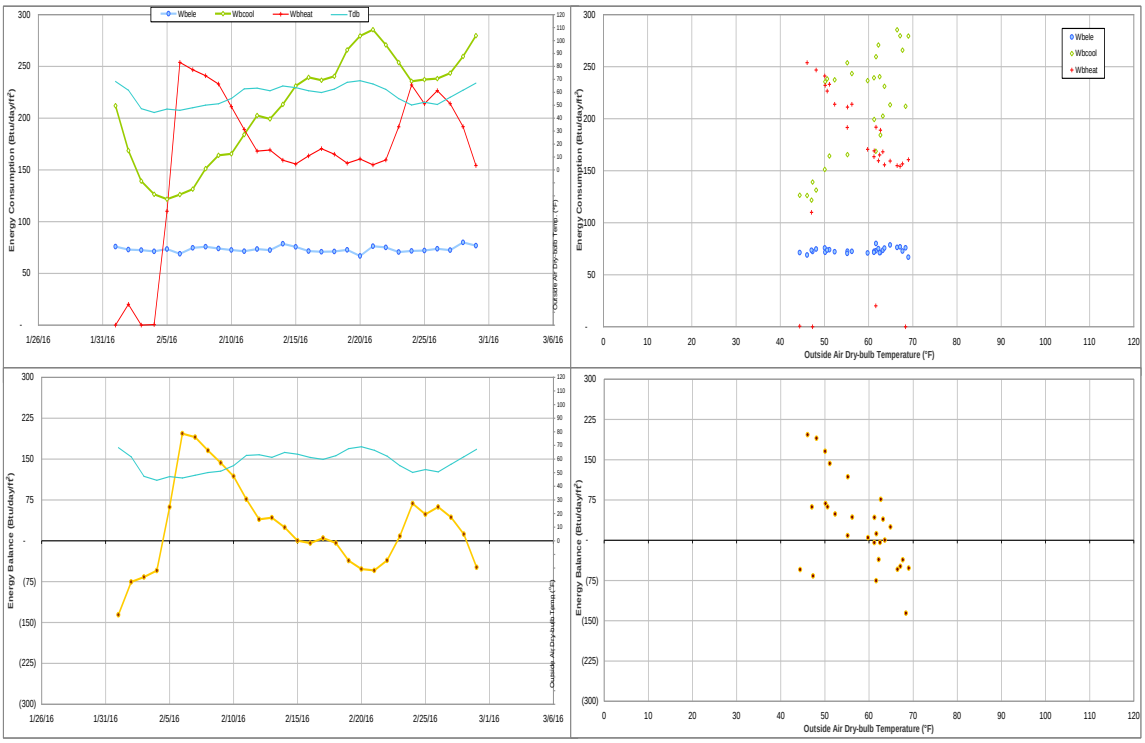


Figure IV-50 Aston Residence Hall TAMU BLDG # 447 Energy Balance Plot during February 2016

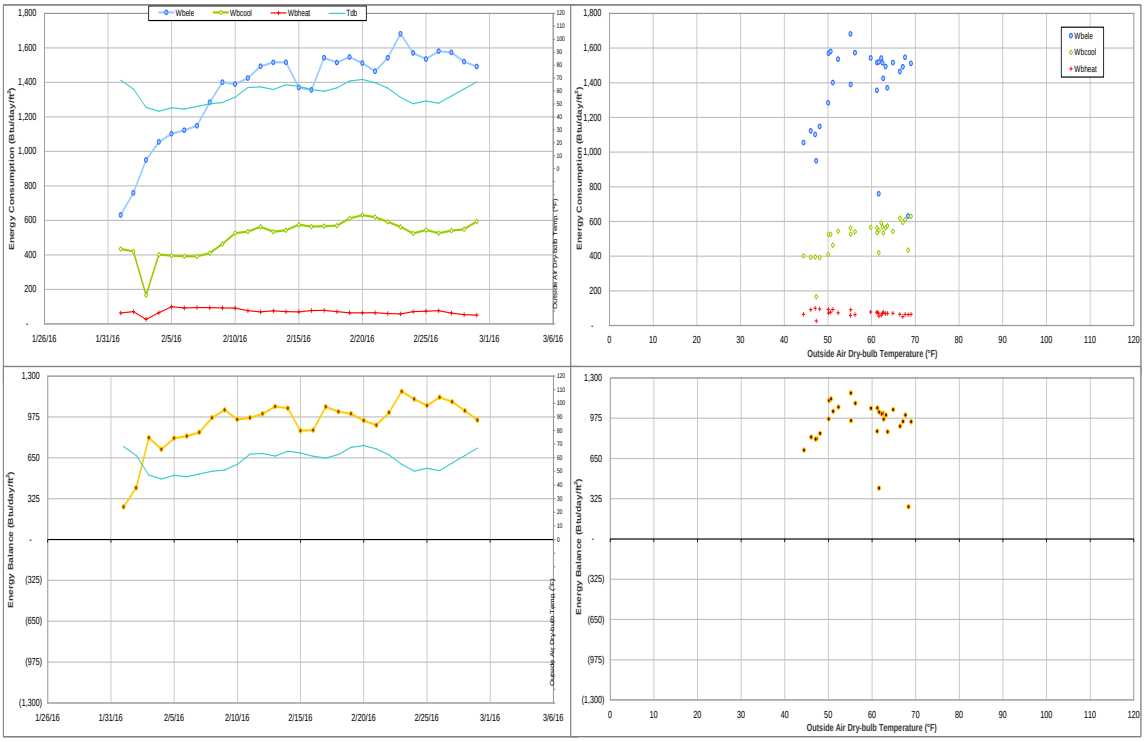


Figure IV-51 Luedecke Building (Cyclotron) TAMU BLDG # 434 Energy Balance Plot during February 2016

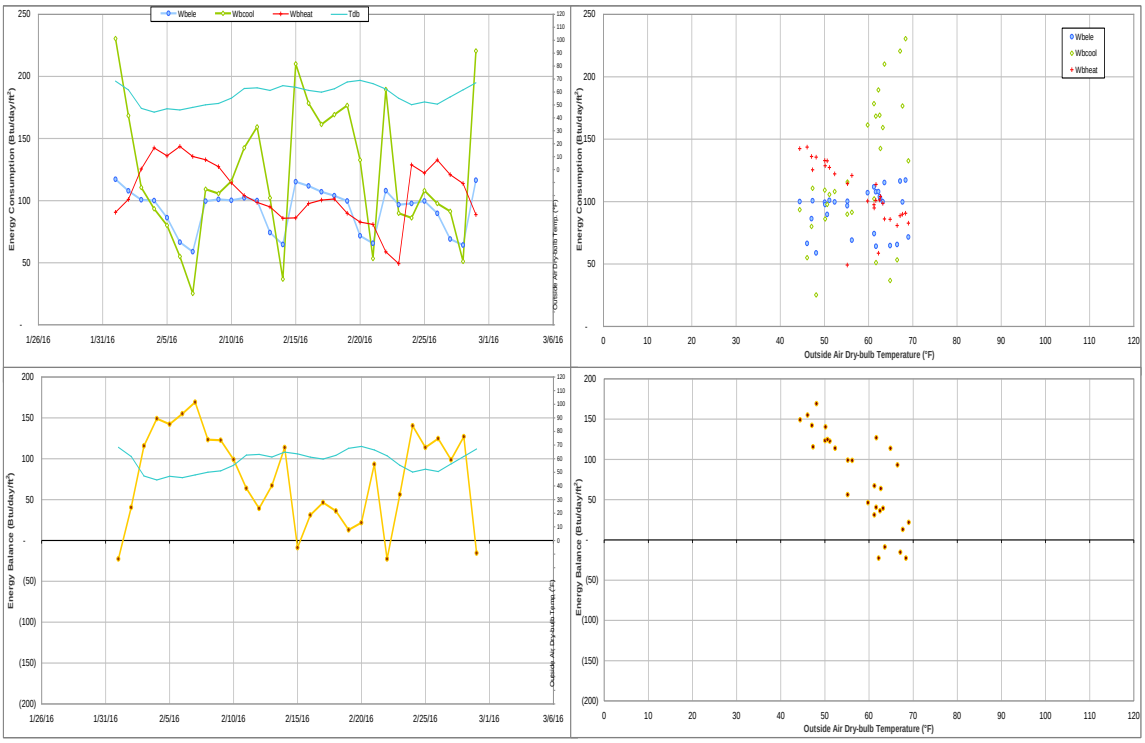


Figure IV-52 Harrington Education Center Office Tower TAMU BLDG # 435 Energy Balance Plot during February 2016

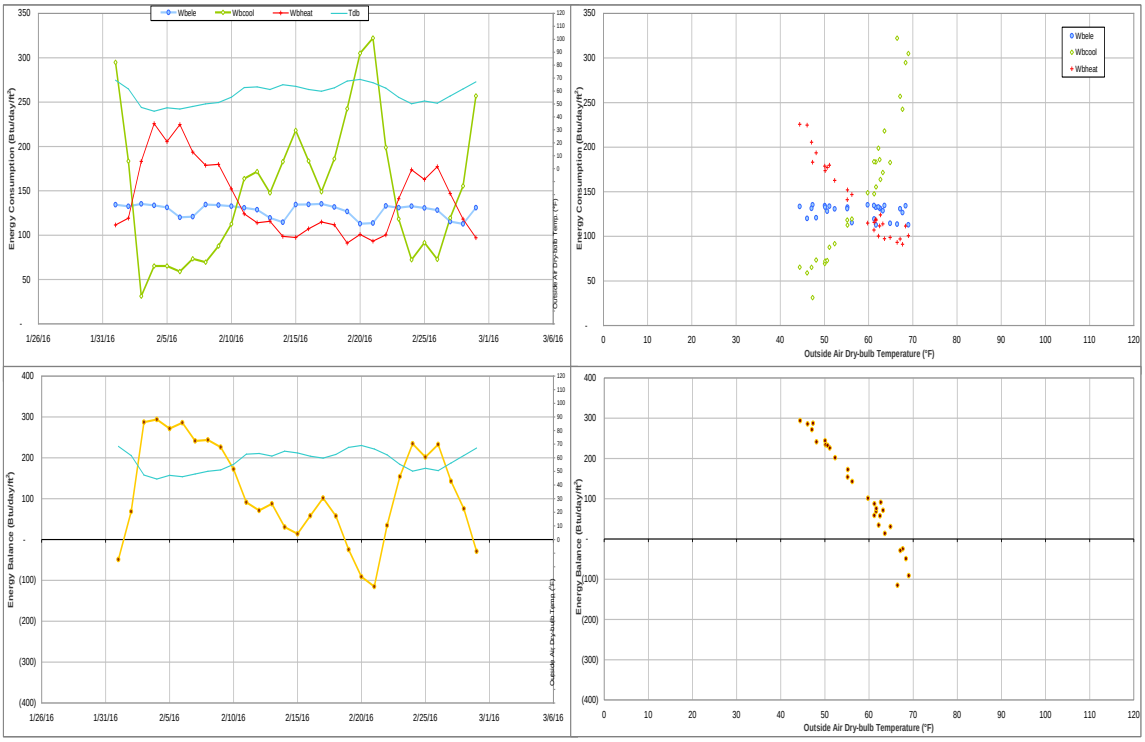


Figure IV-53 Reed-McDonald and Engineering Innovation Center TAMU BLDG # 436-499 Energy Balance Plot during February 2016

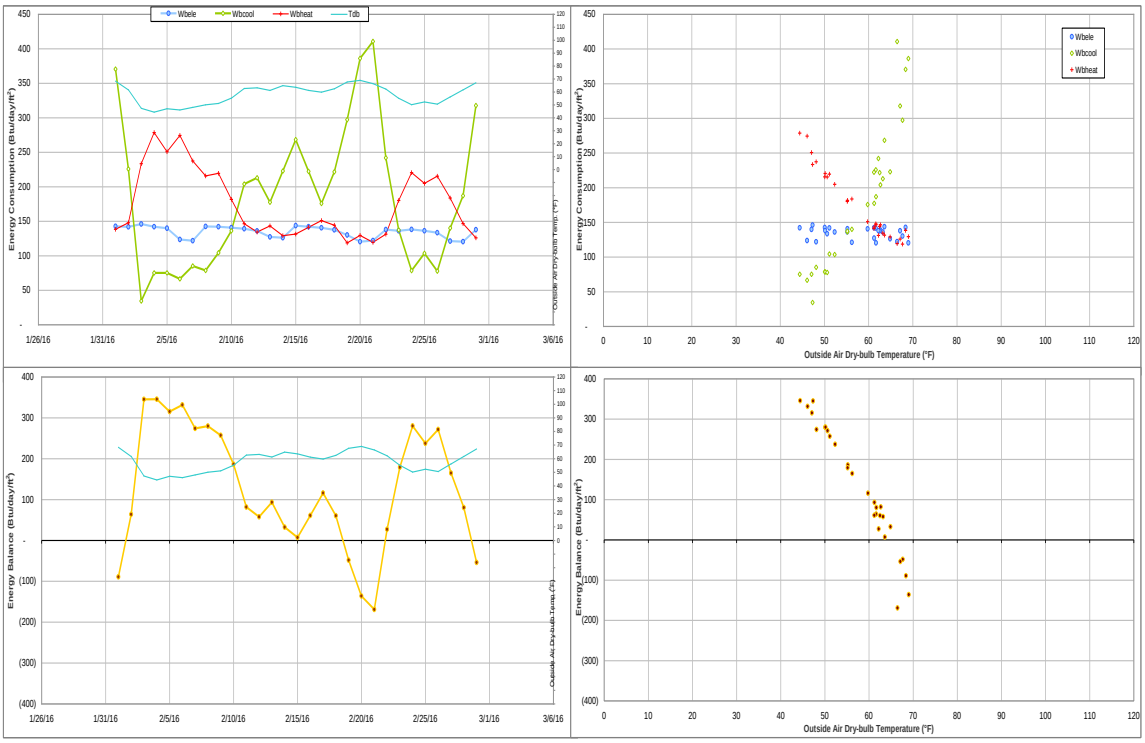


Figure IV-54 Reed-McDonald Building TAMU BLDG # 436 Energy Balance Plot during February 2016

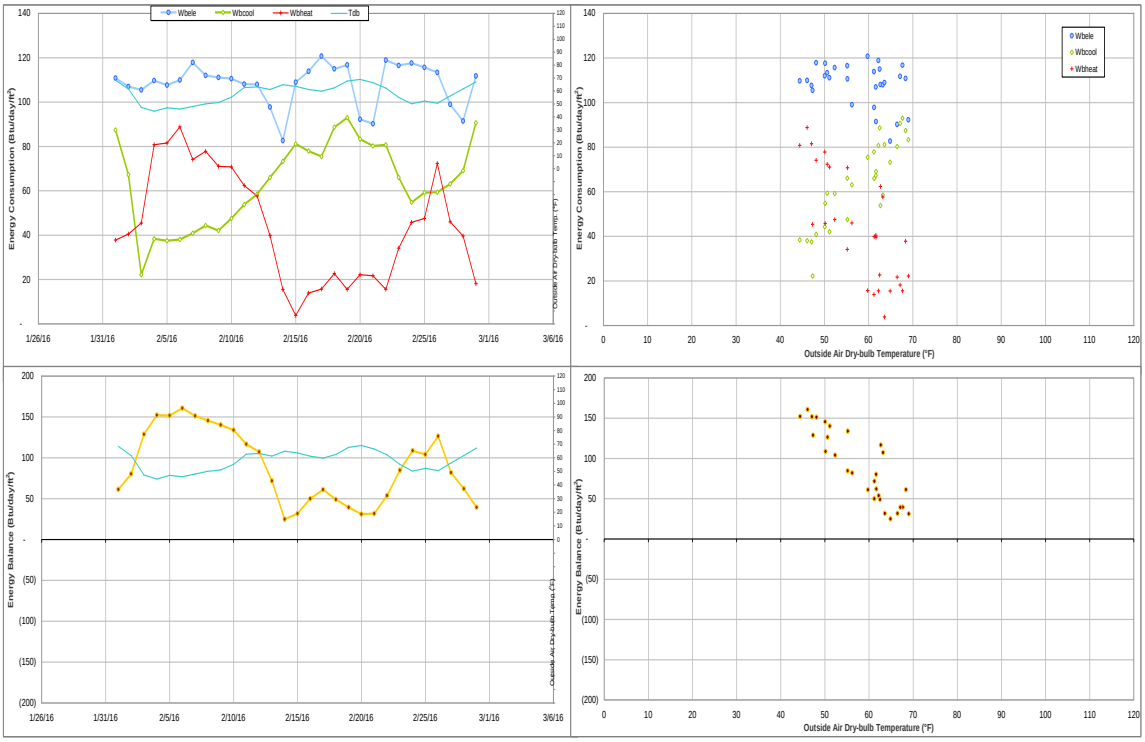


Figure IV-55 Engineering Innovation Center TAMU BLDG # 499 Energy Balance Plot during February 2016

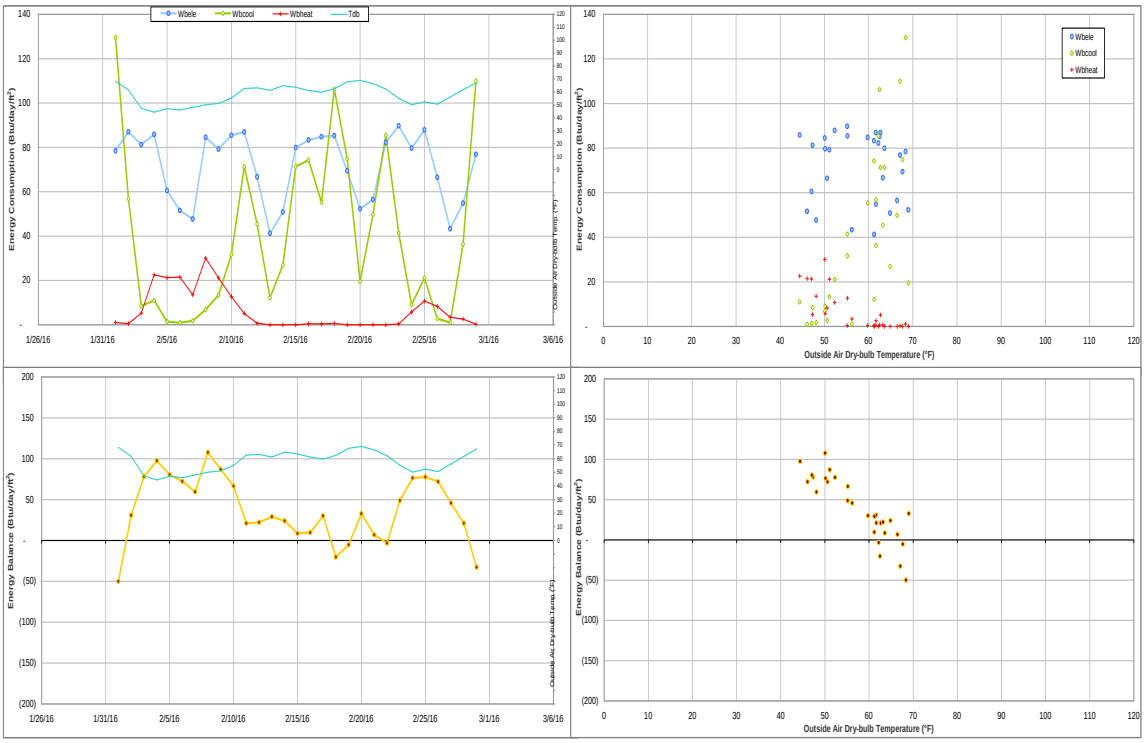


Figure IV-56 Harrington Education Center Classroom Building TAMU BLDG # 438 Energy Balance Plot during February 2016

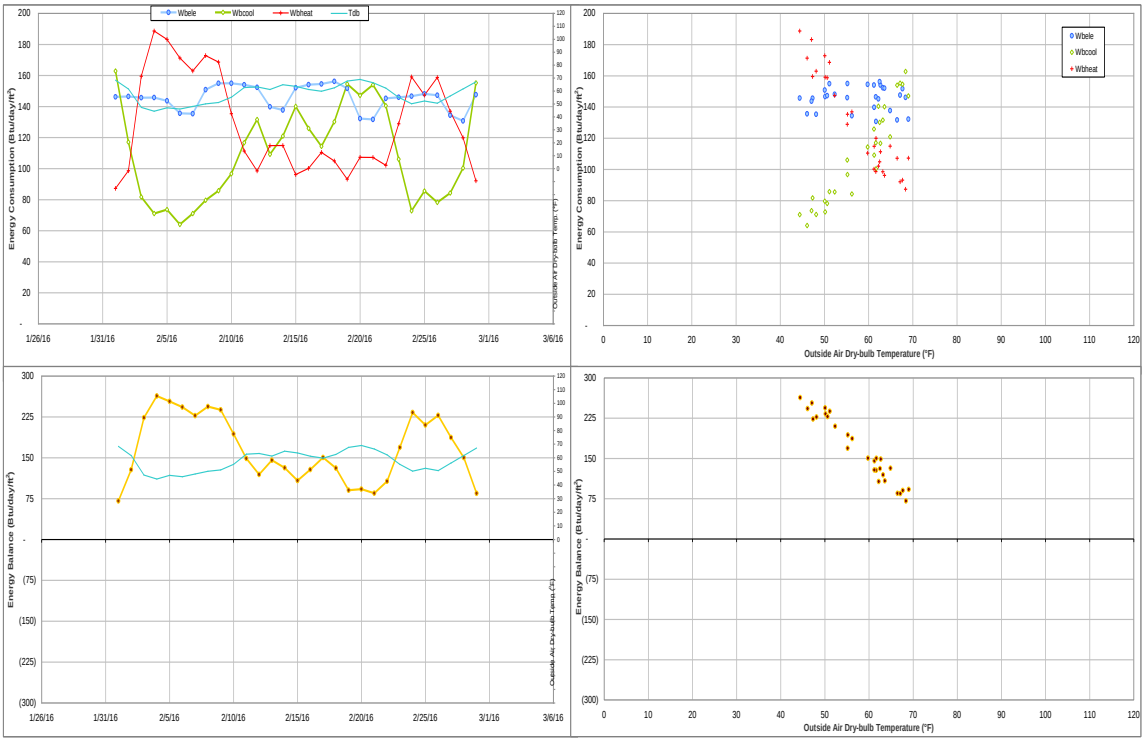


Figure IV-57 Oceanography & Meteorology Building TAMU BLDG # 443 Energy Balance Plot during February 2016

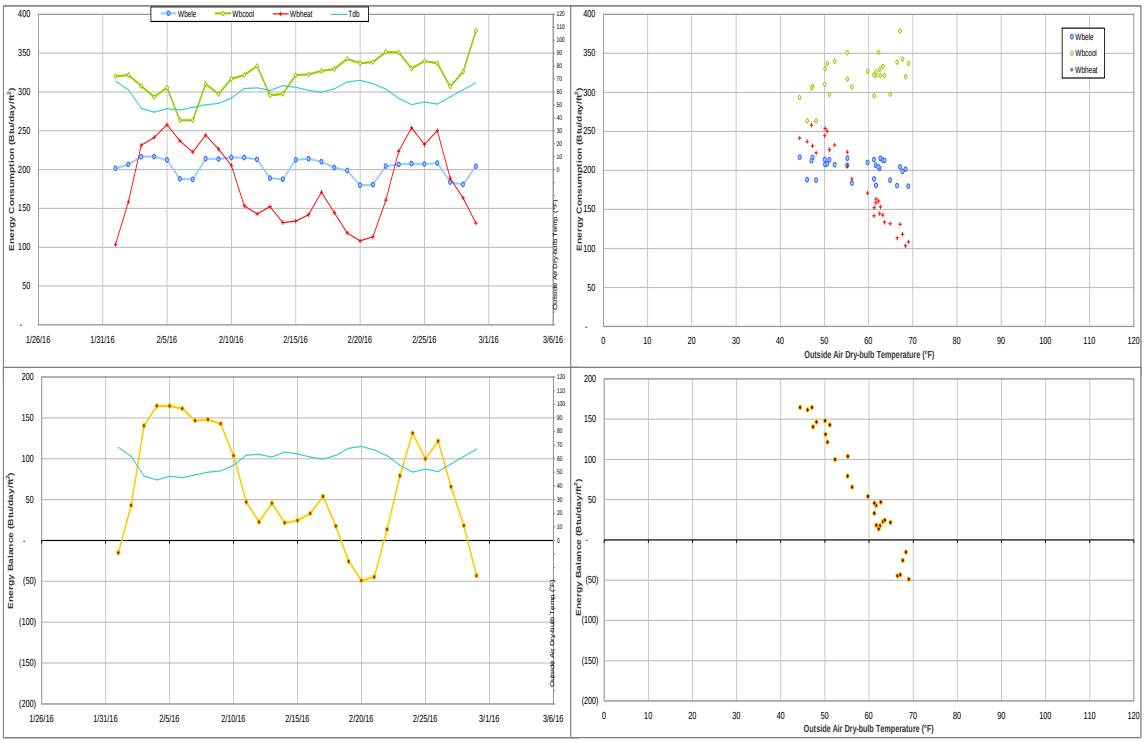


Figure IV-58 Peterson Building TAMU BLDG # 444 Energy Balance Plot during February 2016

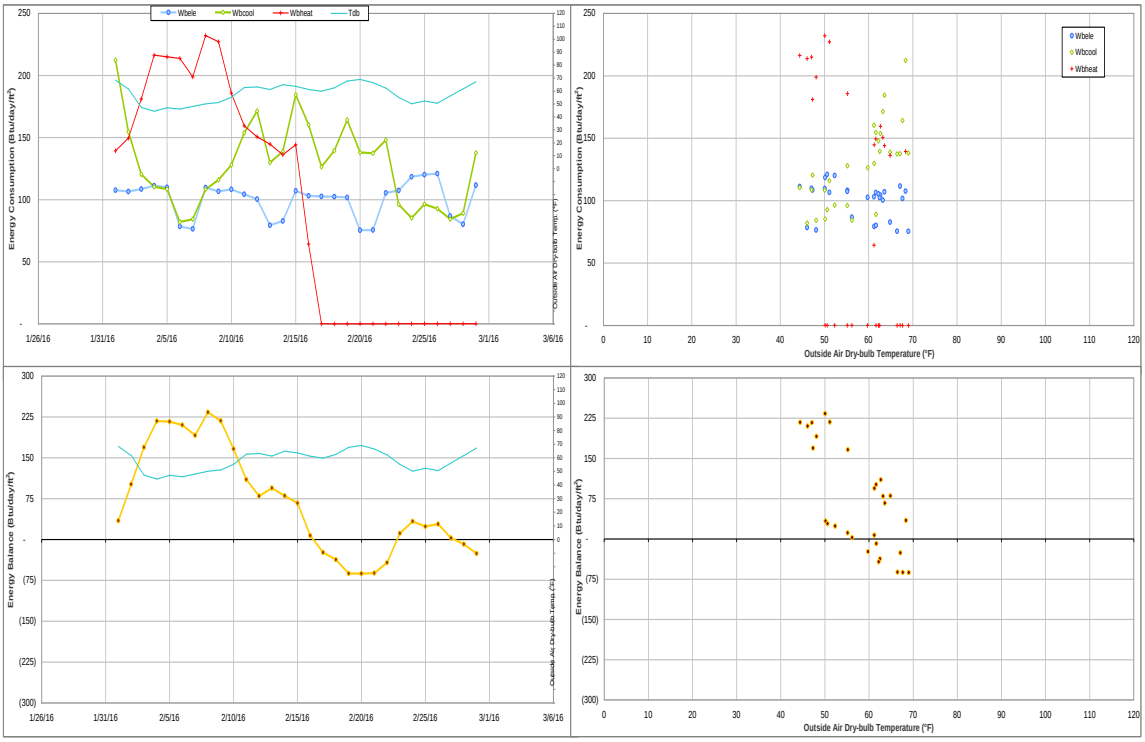


Figure IV-59 Teague Research Center and DPC Annex TAMU BLDG # 445-517 Energy Balance Plot during February 2016

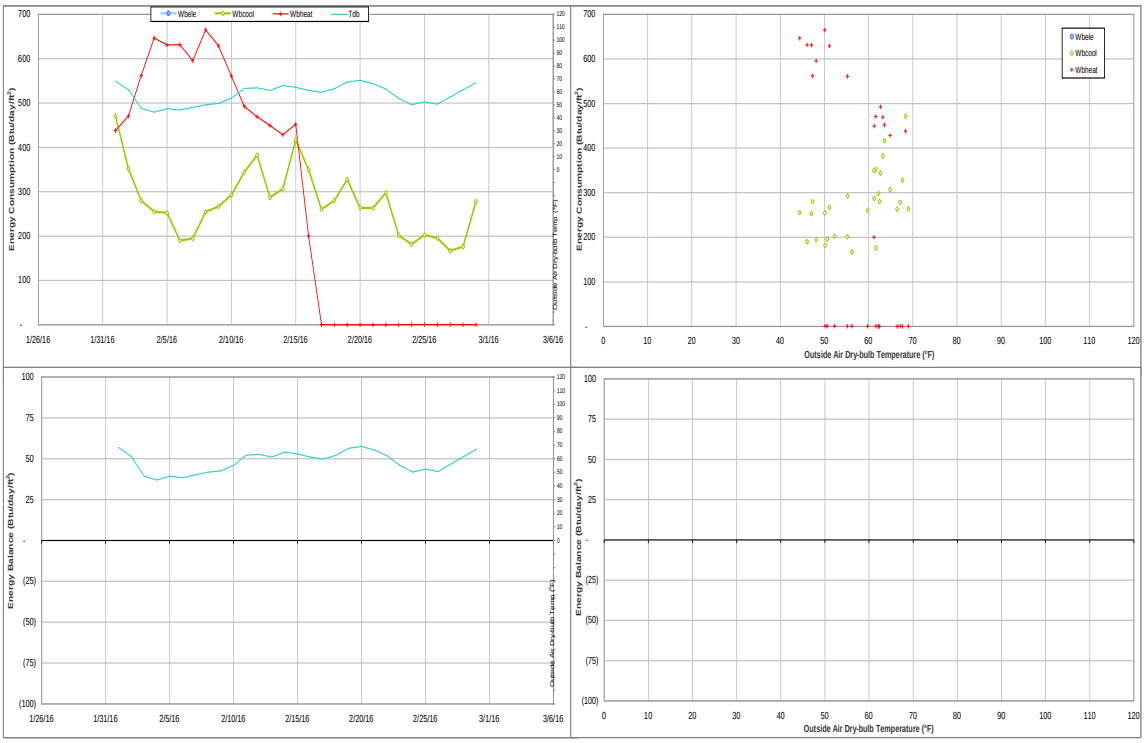


Figure IV-60 DPC Annex TAMU BLDG # 517 Energy Balance Plot during February 2016

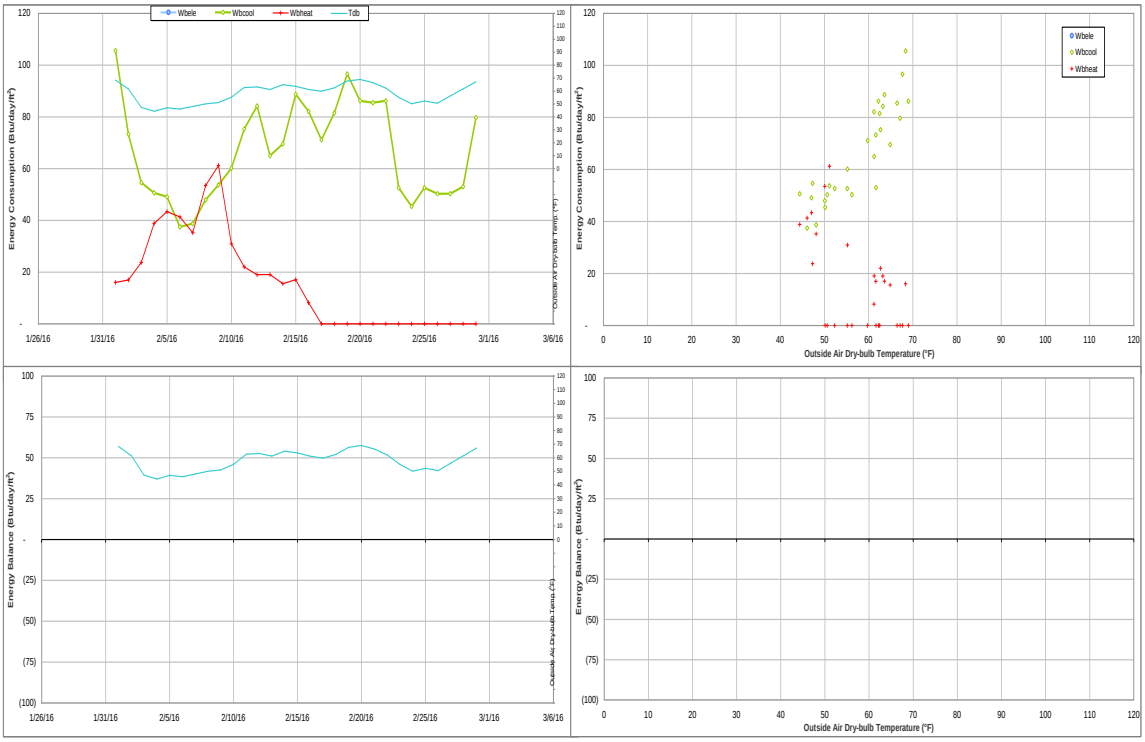


Figure IV-61 Teague Research Center TAMU BLDG # 445 Energy Balance Plot during February 2016

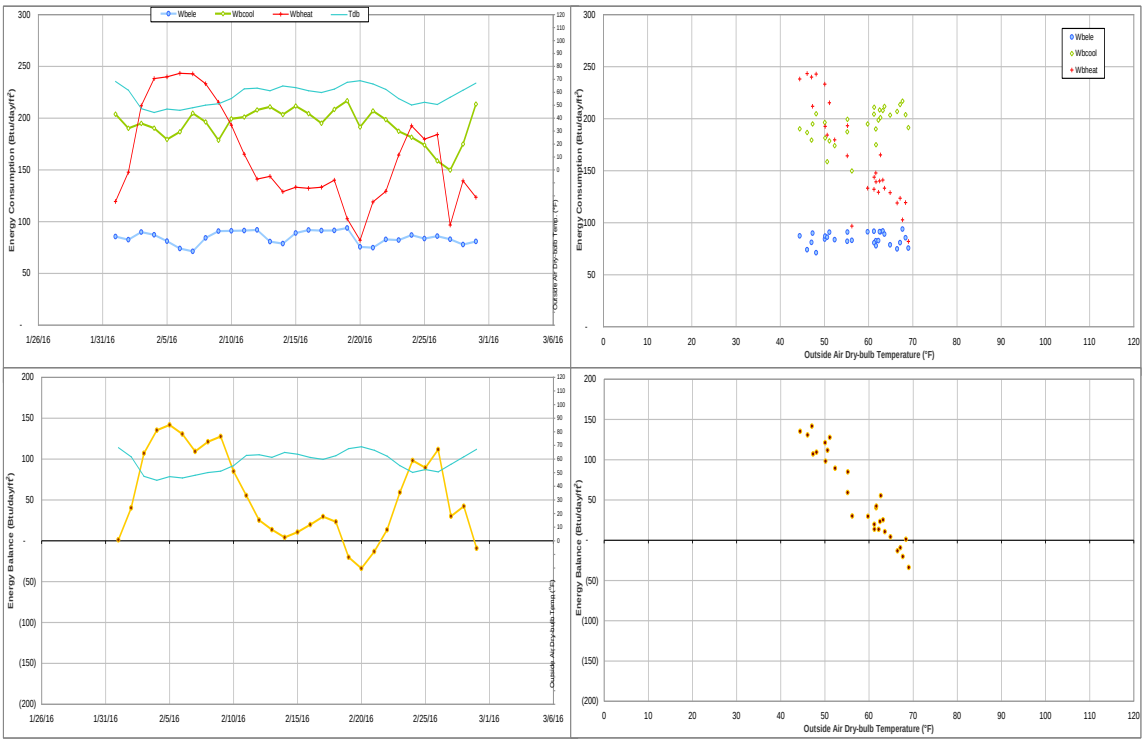


Figure IV-62 Rudder Tower and Theatre Complex TAMU BLDG # 446 Energy Balance Plot during February 2016

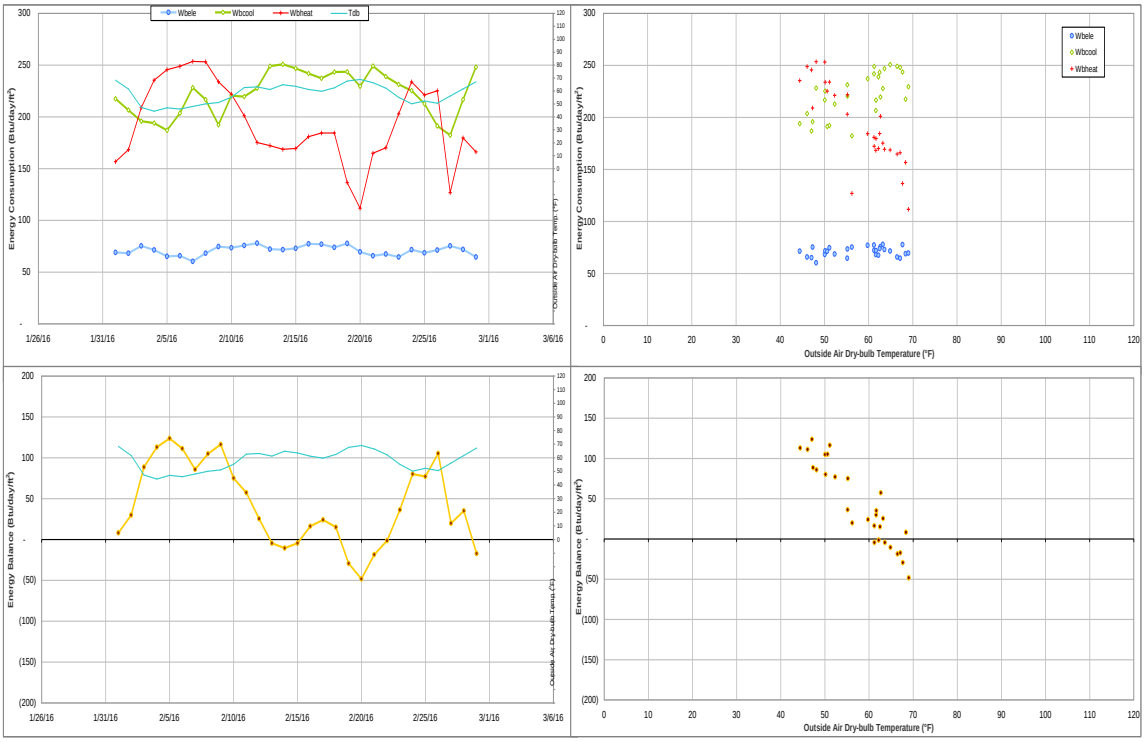


Figure IV-63 Rudder Theatre Complex TAMU BLDG # 446 Energy Balance Plot during February 2016

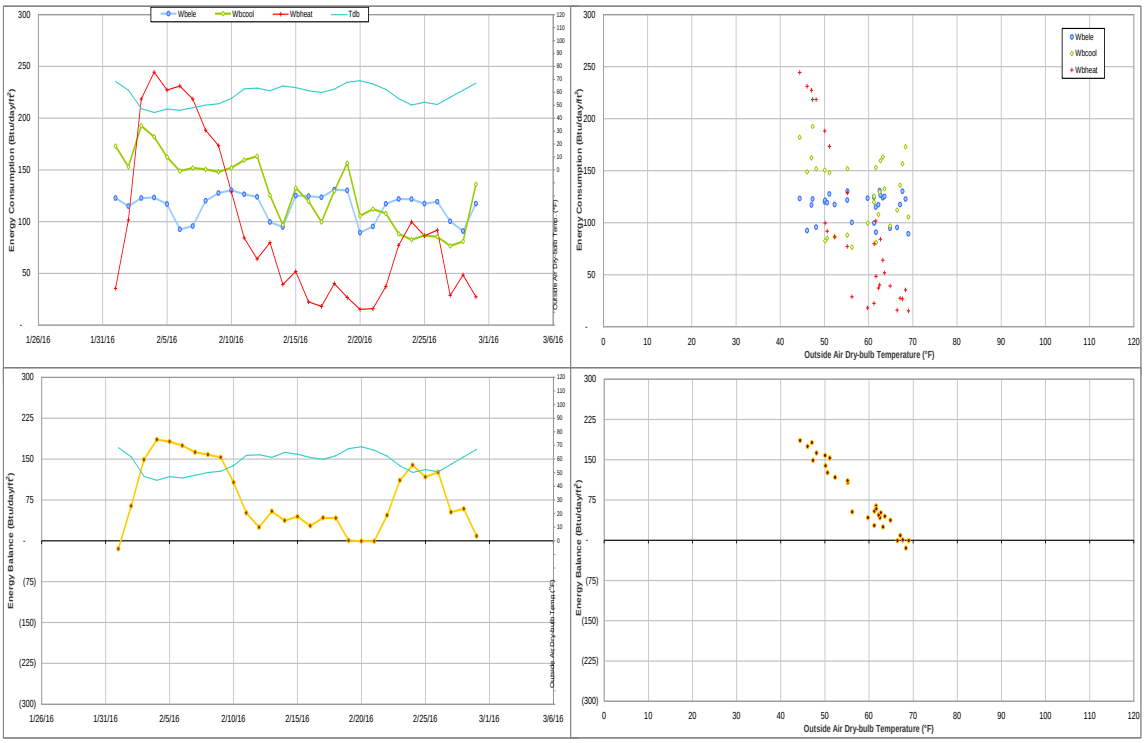


Figure IV-64 Rudder Tower TAMU BLDG # 446 Energy Balance Plot during February 2016

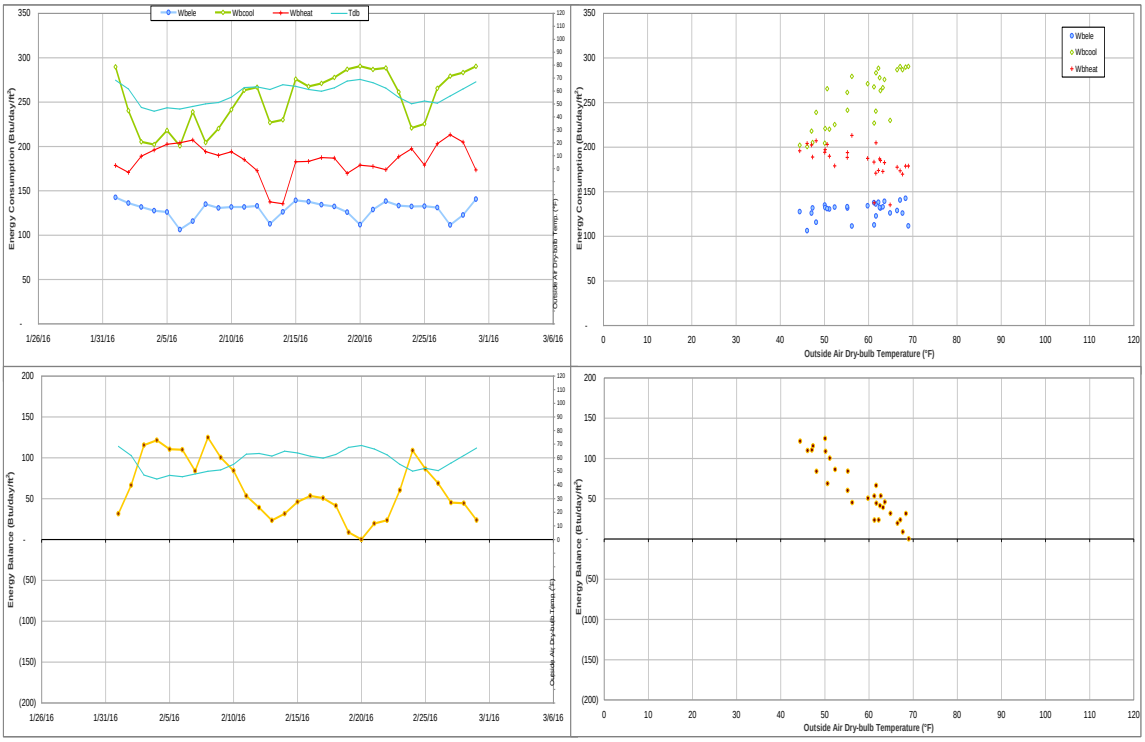


Figure IV-65 Adams Band Hall TAMU BLDG # 448 Energy Balance Plot during February 2016

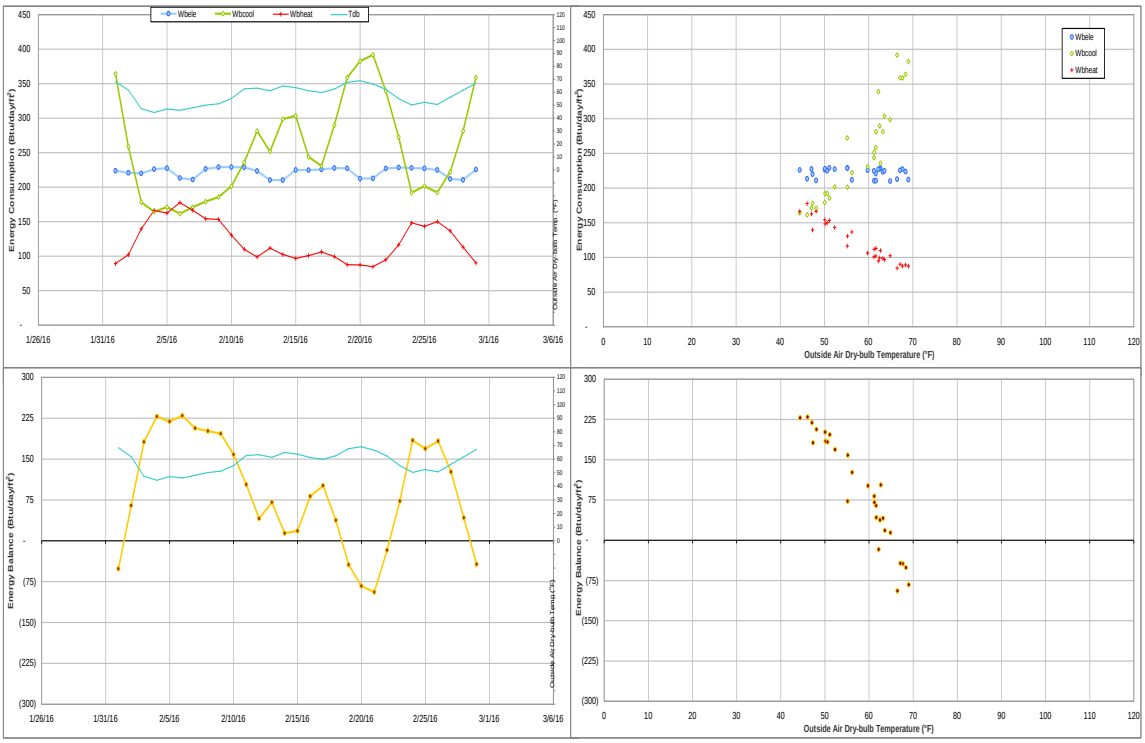


Figure IV-66 Biological Sciences Building - West TAMU BLDG # 449 Energy Balance Plot during February 2016

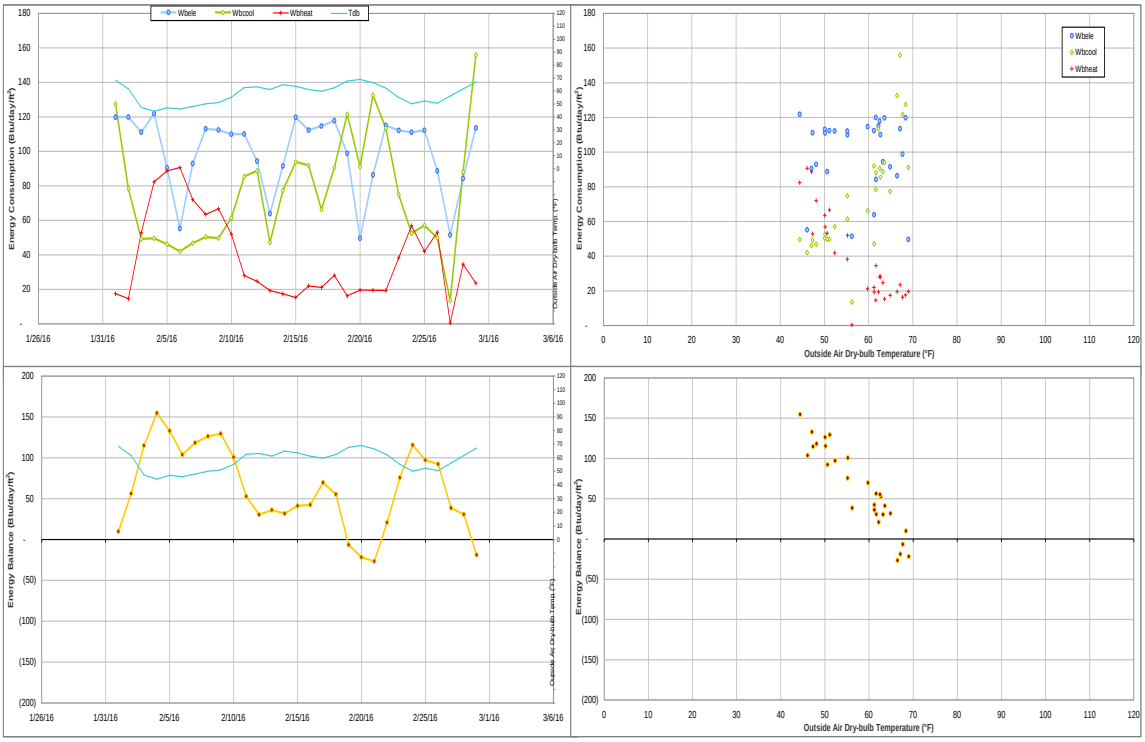


Figure IV-67 Duncan Dining Hall TAMU BLDG # 450 Energy Balance Plot during February 2016

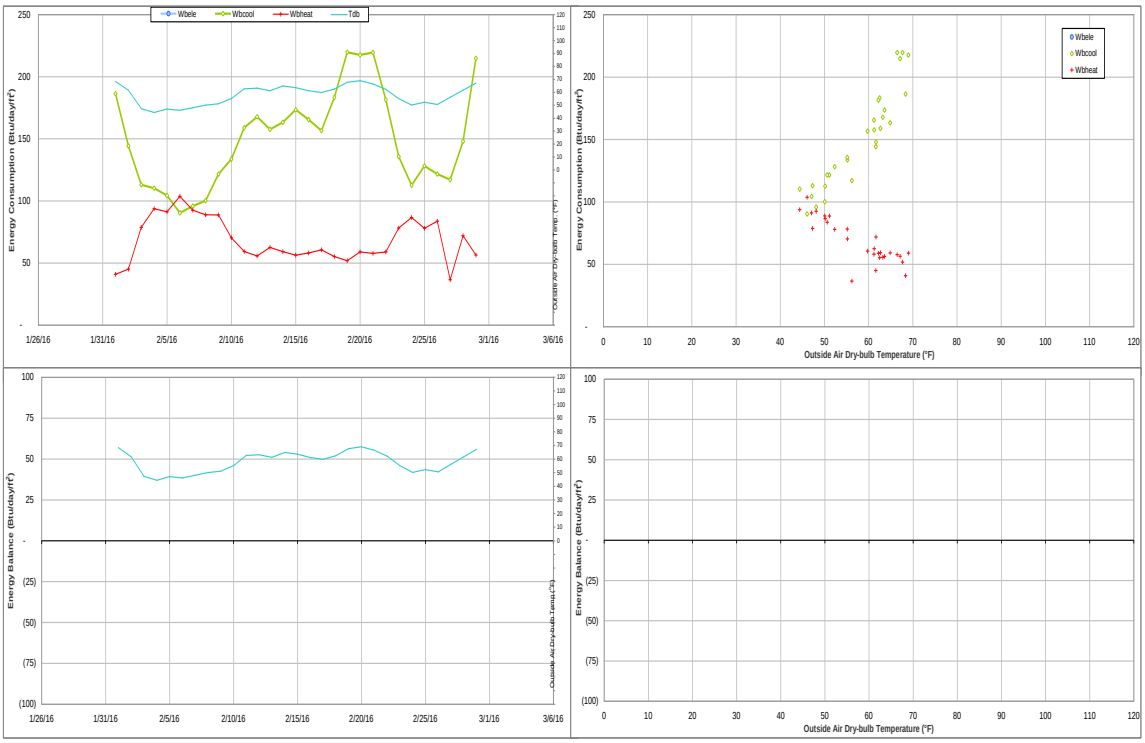


Figure IV-68 MSC TAMU BLDG # 454 Energy Balance Plot during February 2016

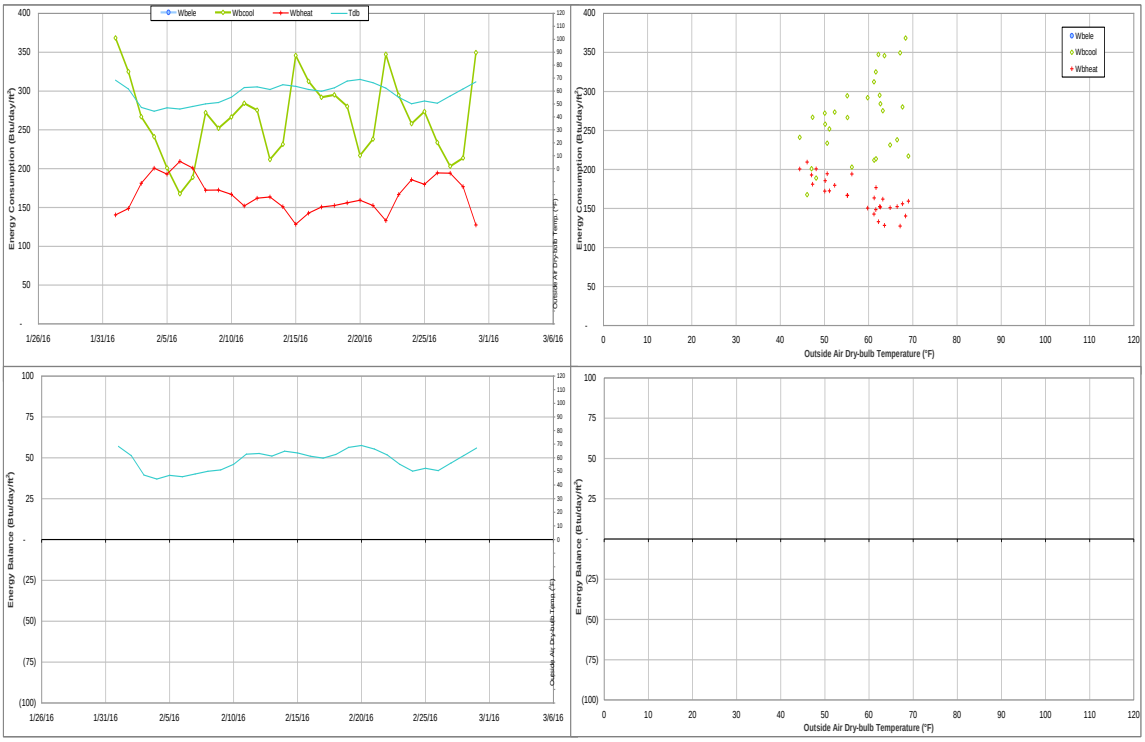


Figure IV-69 Military Sciences Building TAMU BLDG # 456 Energy Balance Plot during February 2016

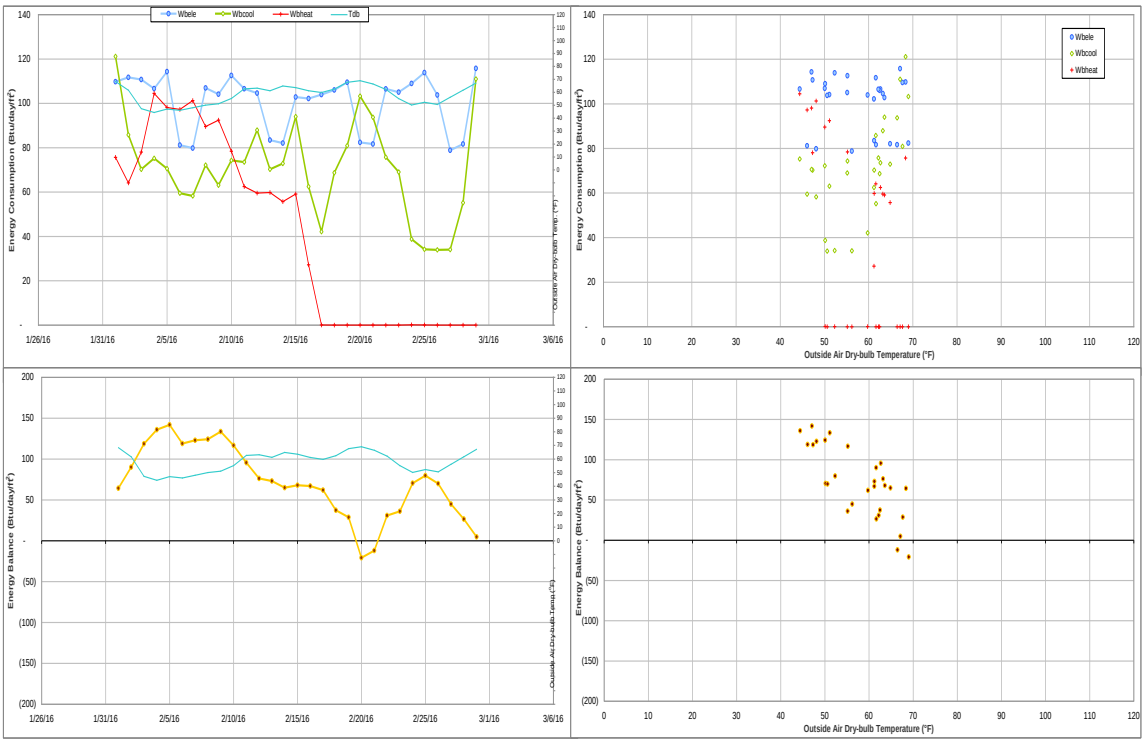


Figure IV-70 TAES Annex Building TAMU BLDG # 457 Energy Balance Plot during February 2016

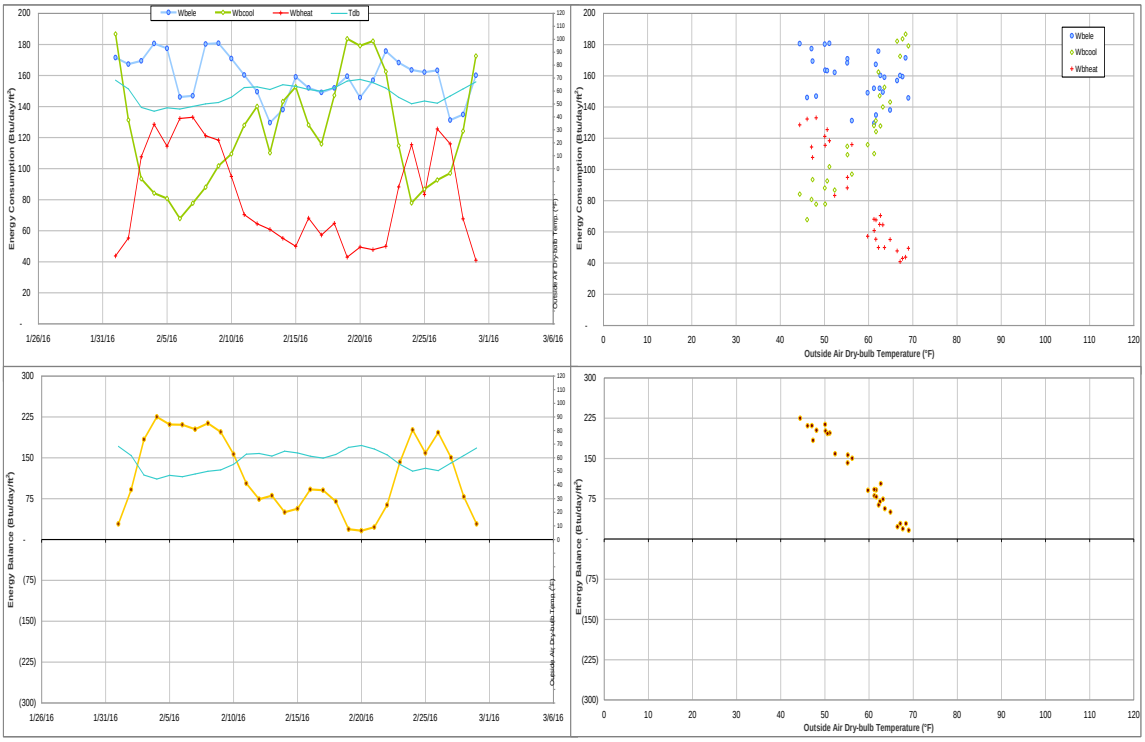


Figure IV-71 Coke Building TAMU BLDG # 461 Energy Balance Plot during February 2016

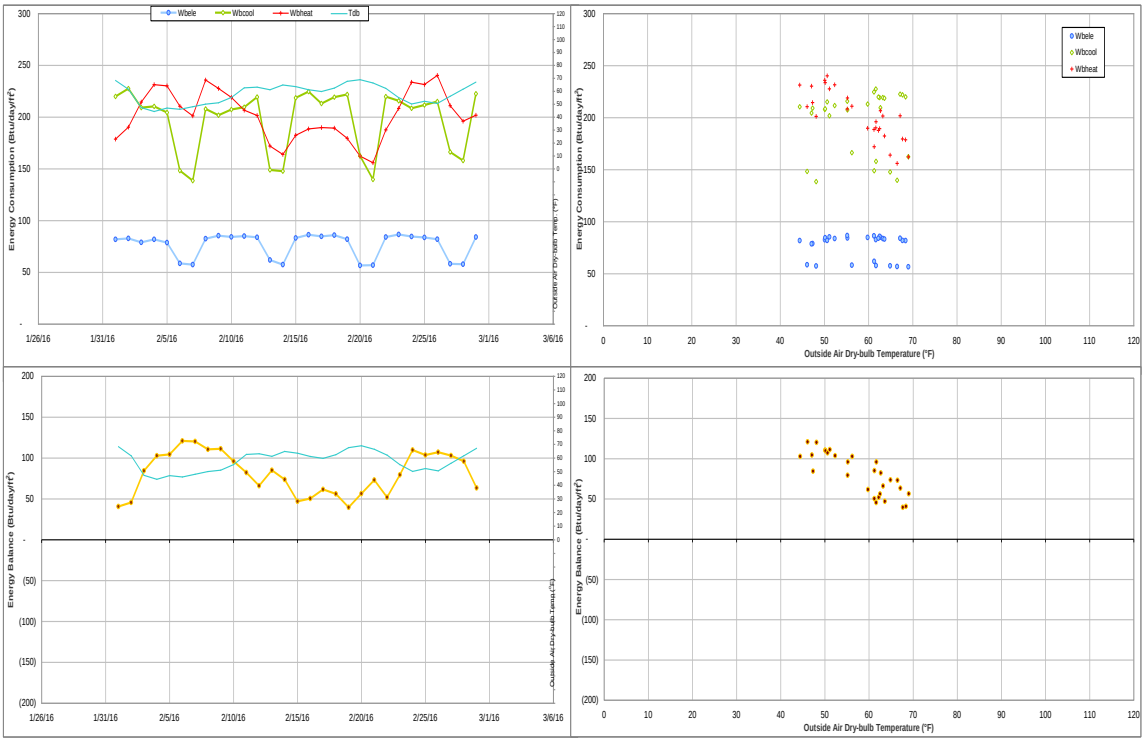


Figure IV-72 Academic Building TAMU BLDG # 462 Energy Balance Plot during February 2016

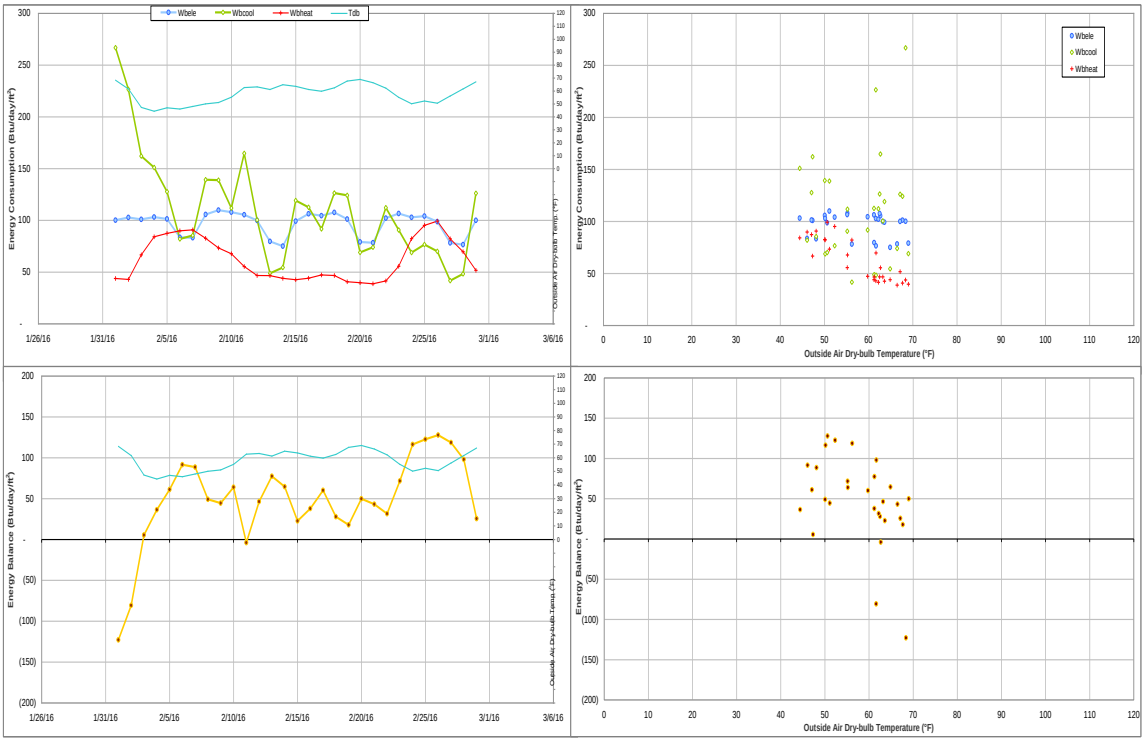


Figure IV-73 Psychology Building TAMU BLDG # 463 Energy Balance Plot during February 2016

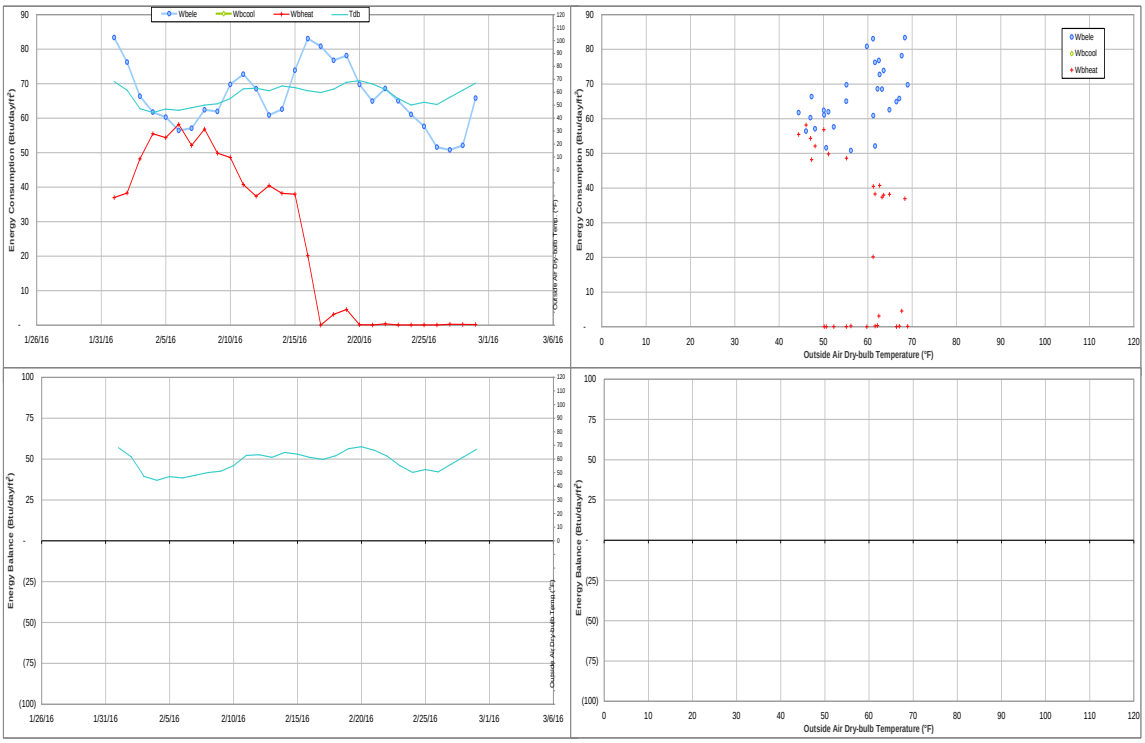


Figure IV-74 State Chemist Building TAMU BLDG # 464 Energy Balance Plot during February 2016

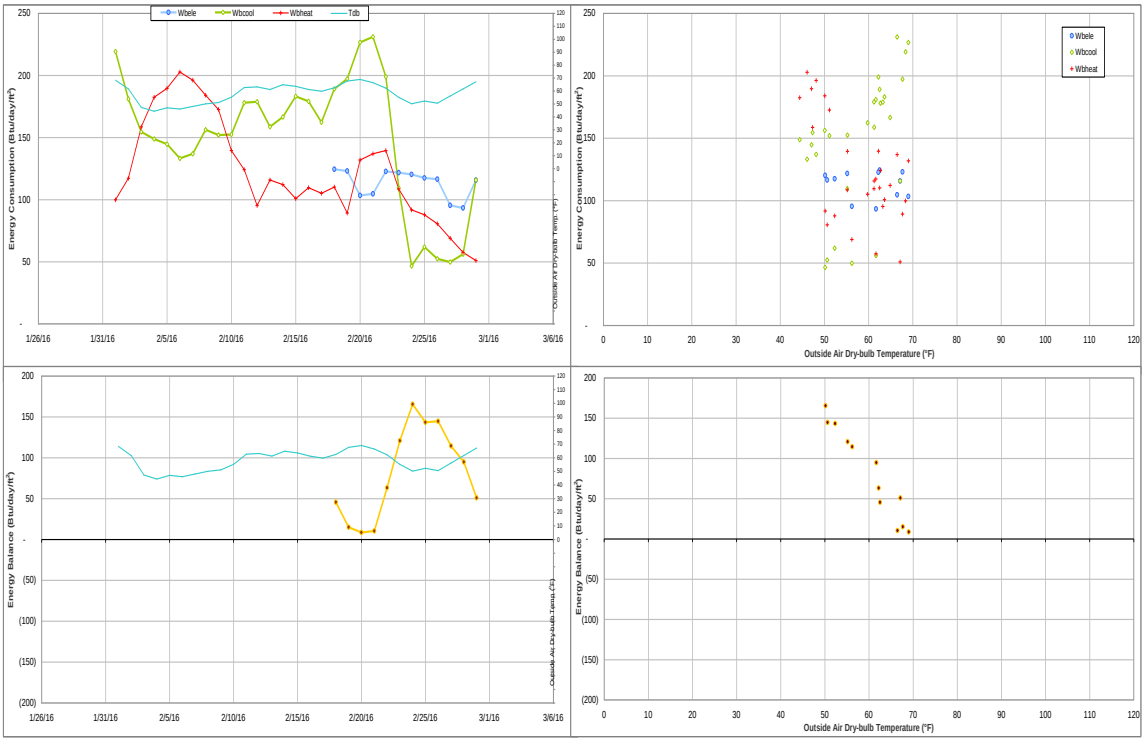


Figure IV-75 Butler Hall TAMU BLDG # 465 Energy Balance Plot during February 2016

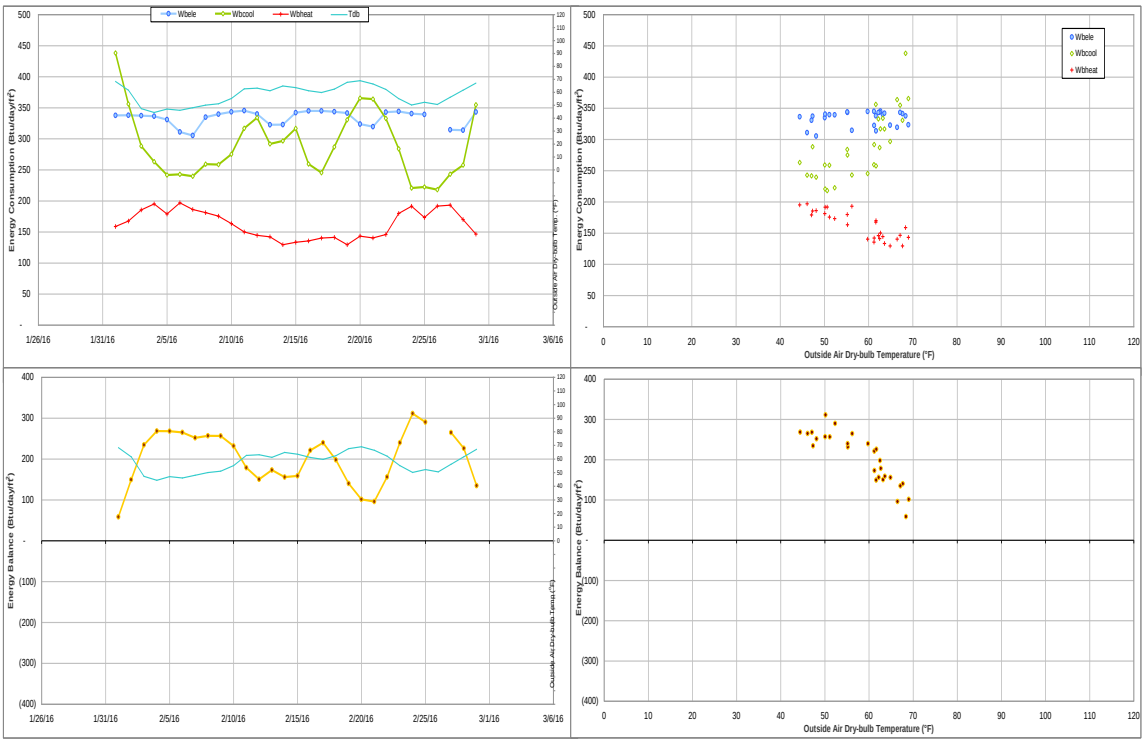


Figure IV-76 Biological Sciences Building - East TAMU BLDG # 467 Energy Balance Plot during February 2016

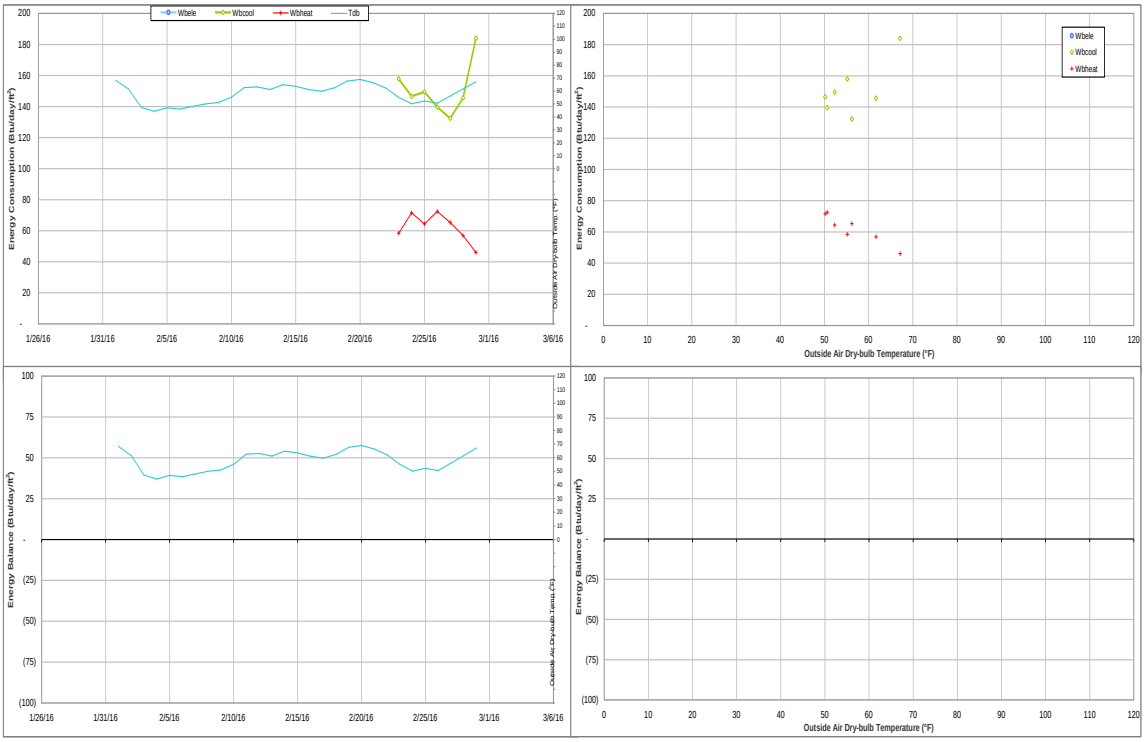


Figure IV-77 Evans Library TAMU BLDG # 468 Energy Balance Plot during February 2016

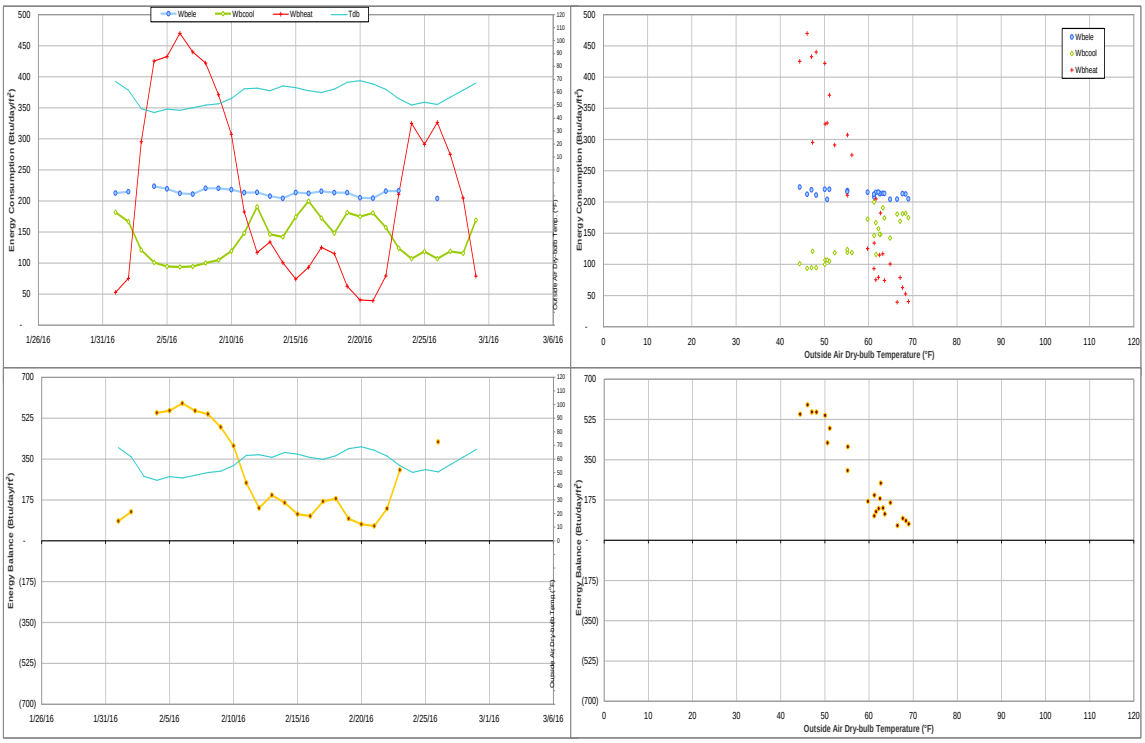


Figure IV-78 Central Campus Parking Garage TAMU BLDG # 469 Energy Balance Plot during February 2016

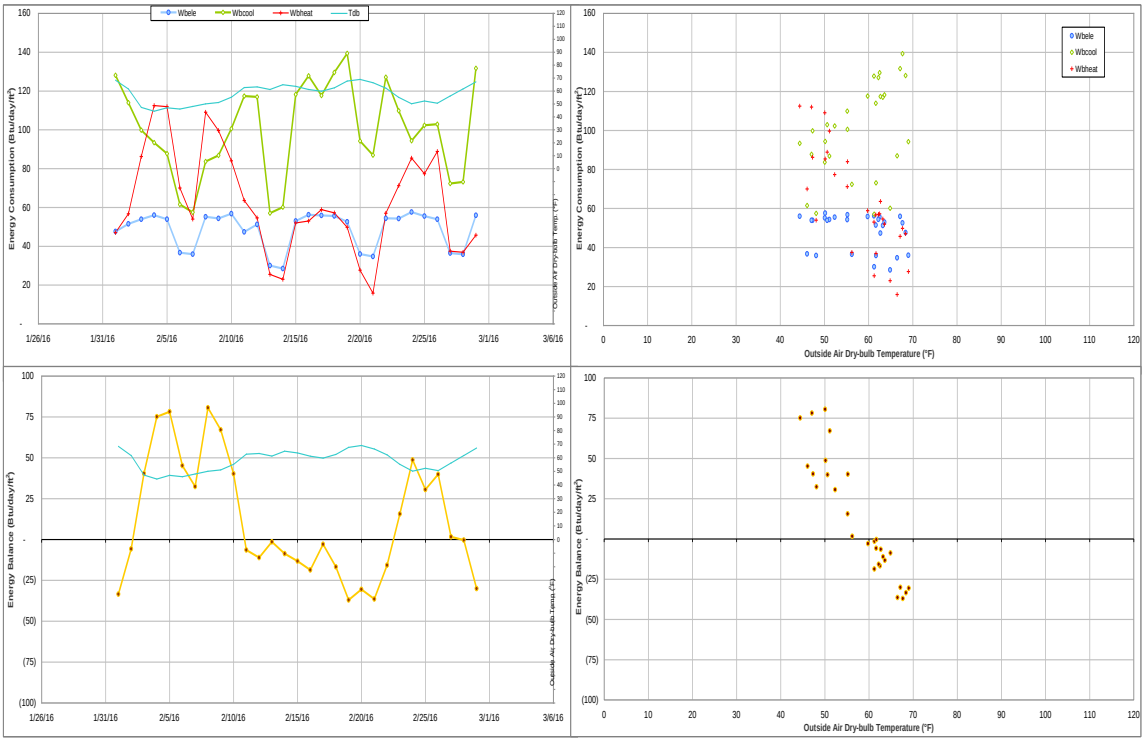


Figure IV-79 Glasscock History Bldg TAMU BLDG # 470 Energy Balance Plot during February 2016

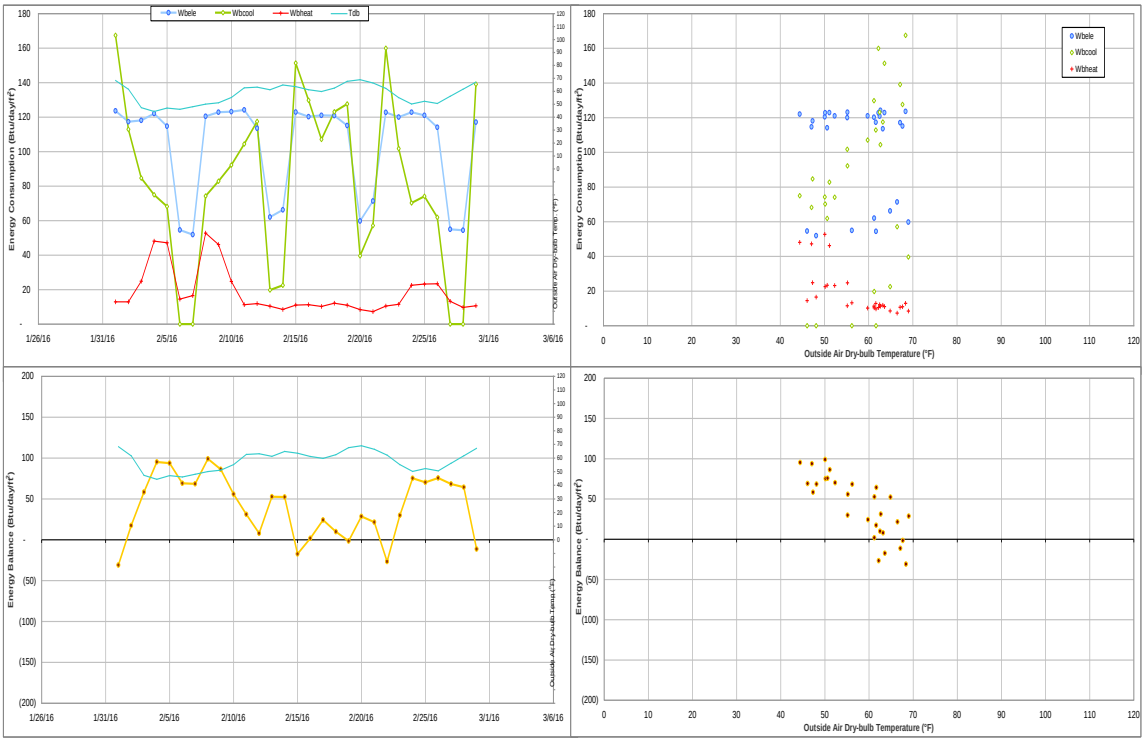


Figure IV-80 Pavilion TAMU BLDG # 471 Energy Balance Plot during February 2016

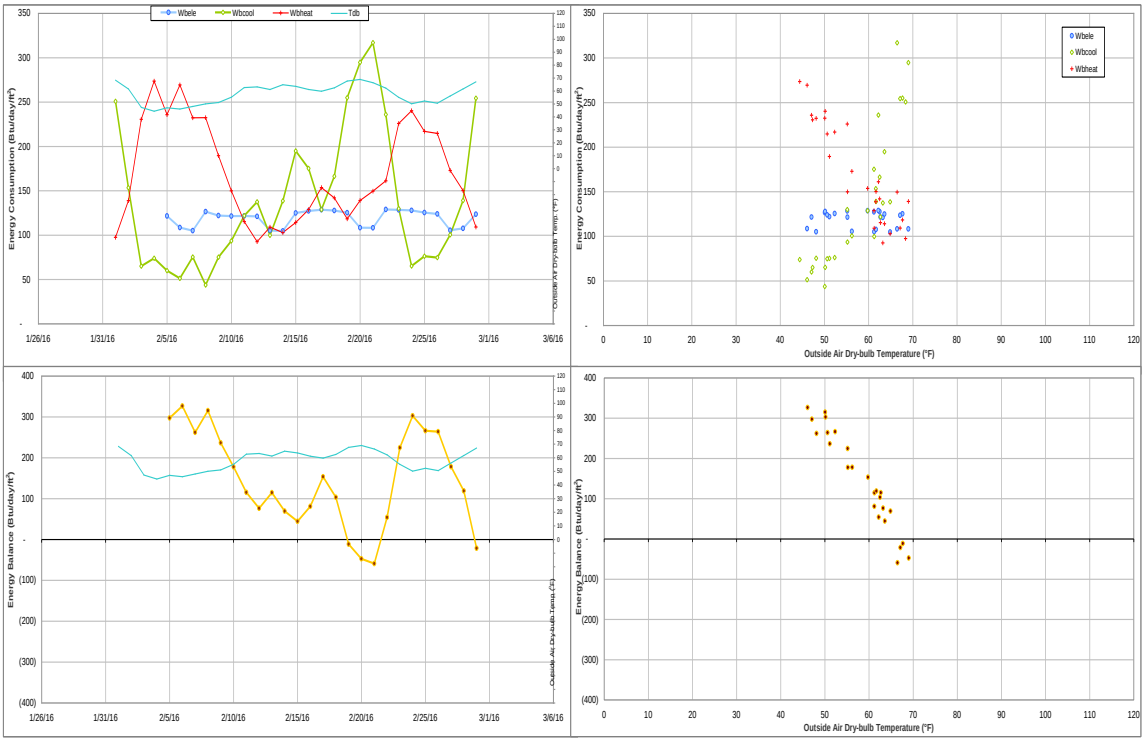


Figure IV-81 Animal Industries TAMU BLDG # 472 Energy Balance Plot during February 2016

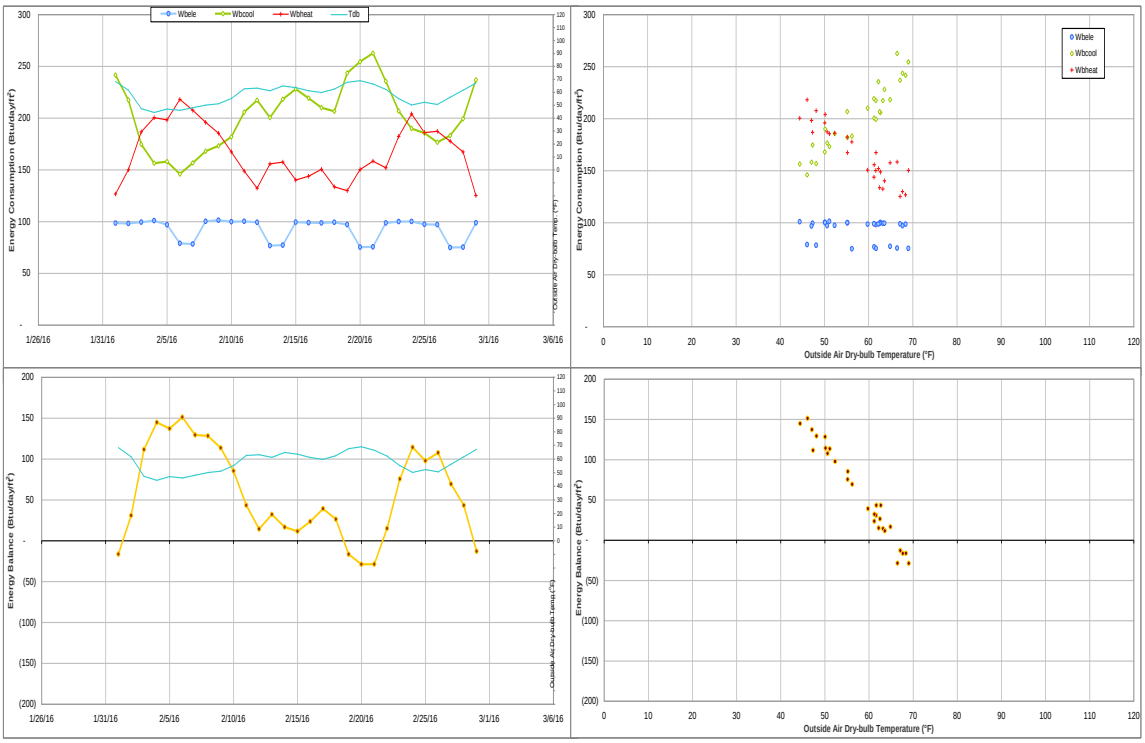


Figure IV-82 Williams Administration Building TAMU BLDG # 473 Energy Balance Plot during February 2016

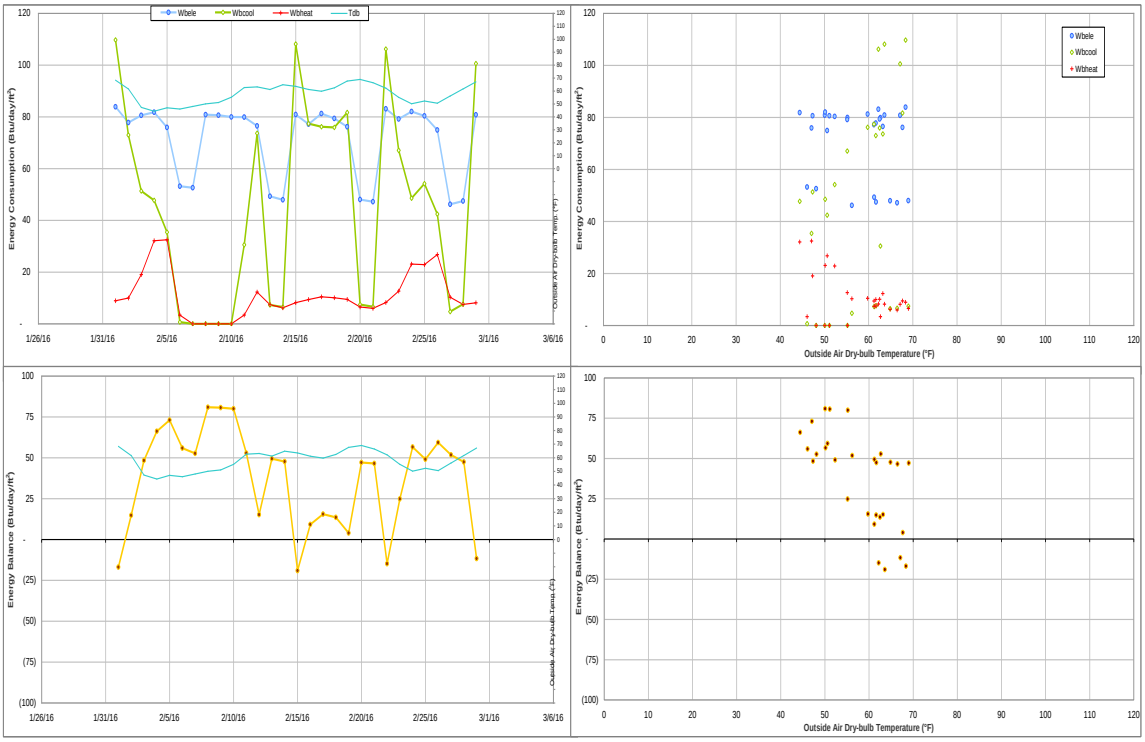


Figure IV-83 YMCA Building TAMU BLDG # 474 Energy Balance Plot during February 2016

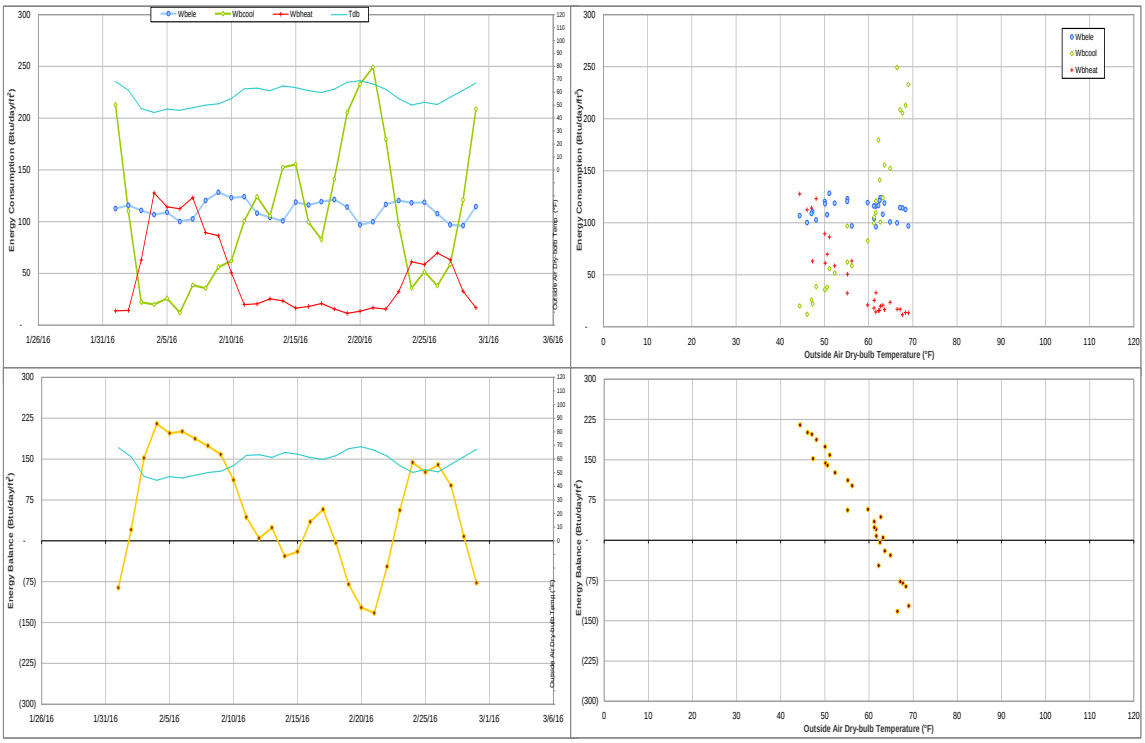


Figure IV-84 Francis Hall TAMU BLDG # 476 Energy Balance Plot during February 2016

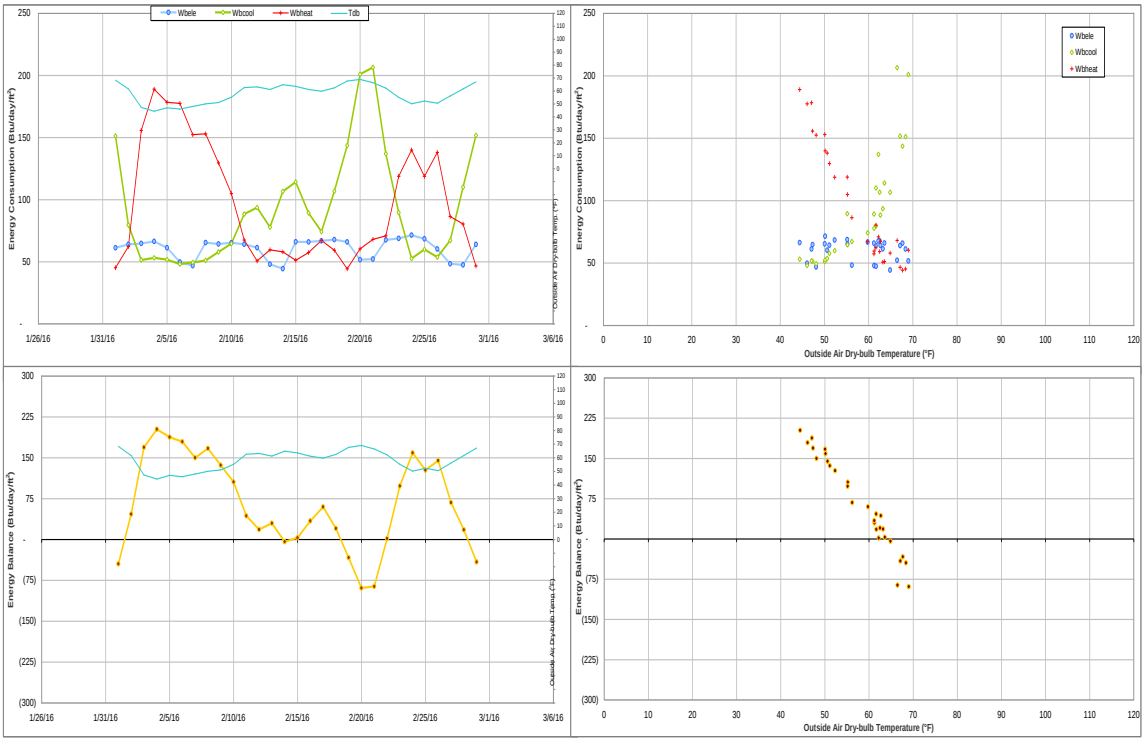


Figure IV-85 Anthropology Building TAMU BLDG # 477 Energy Balance Plot during February 2016

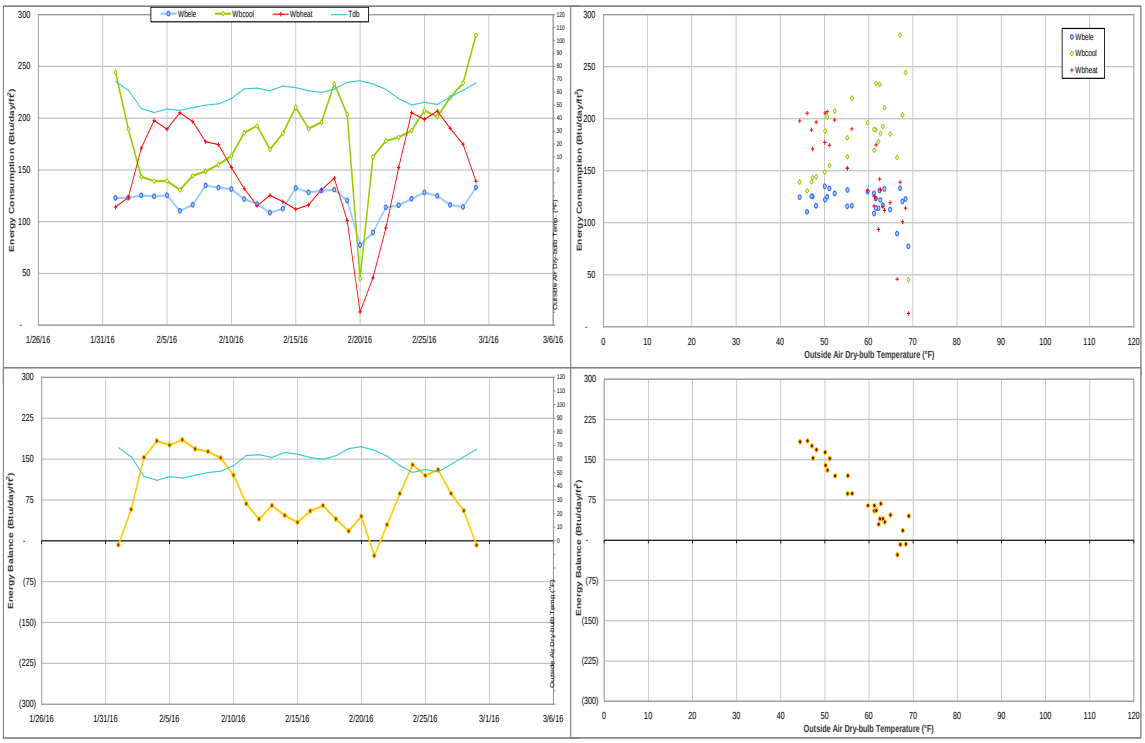


Figure IV-86 Scoates Hall TAMU BLDG # 478 Energy Balance Plot during February 2016

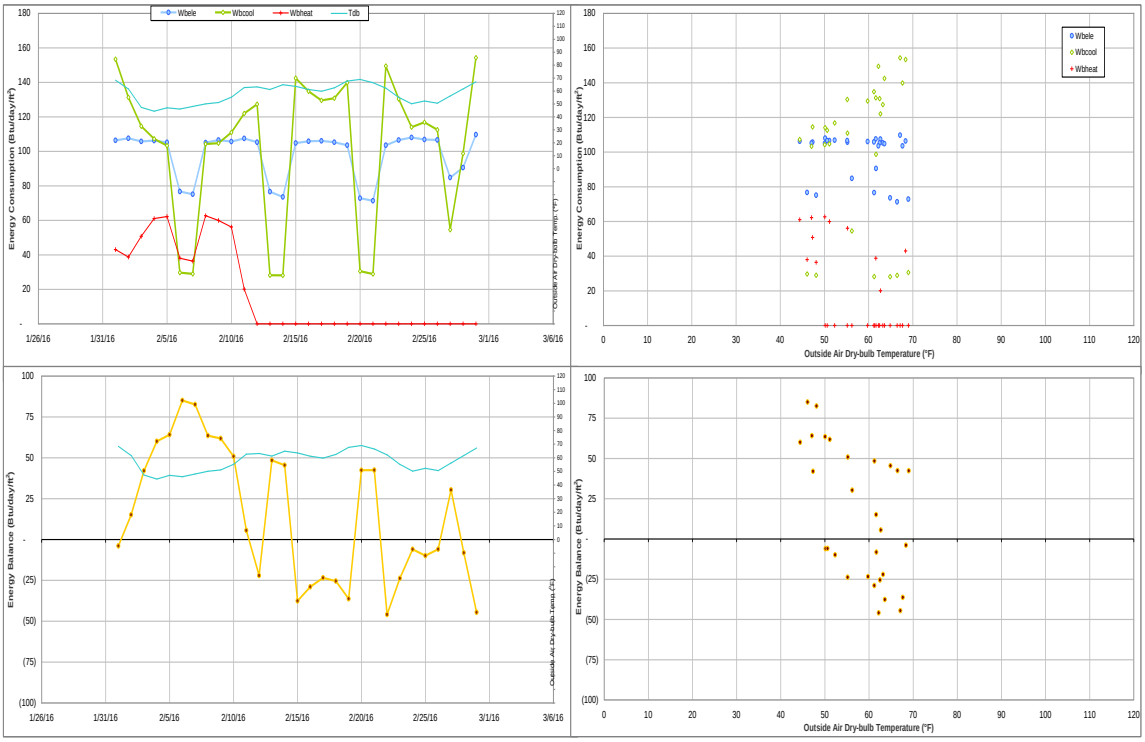


Figure IV-87 Bolton Hall TAMU BLDG # 480 Energy Balance Plot during February 2016

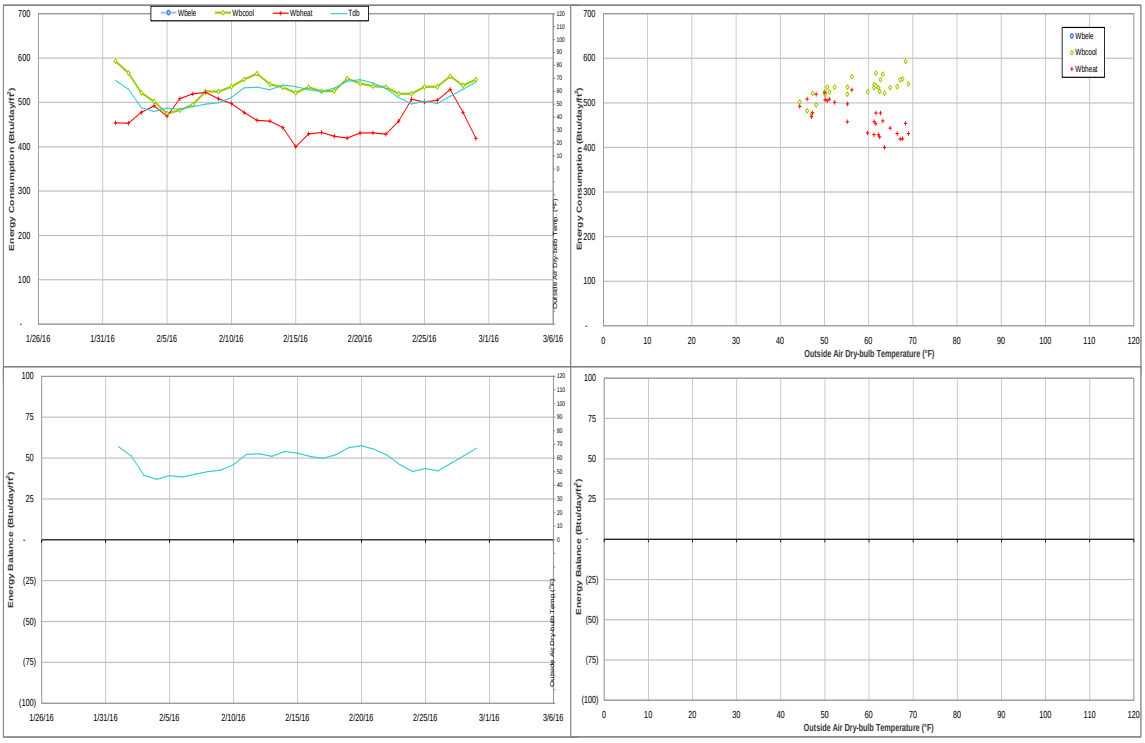


Figure IV-88 Heaton Hall TAMU BLDG # 481 Energy Balance Plot during February 2016

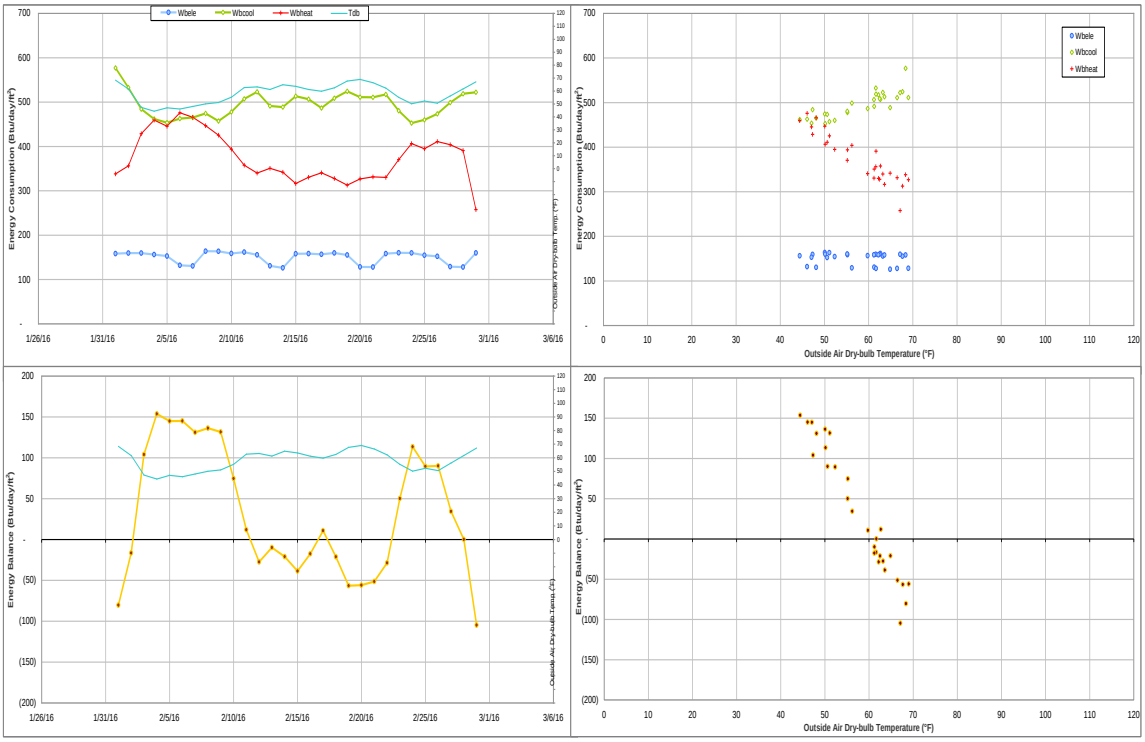


Figure IV-89 Fermier Hall TAMU BLDG # 482 Energy Balance Plot during February 2016

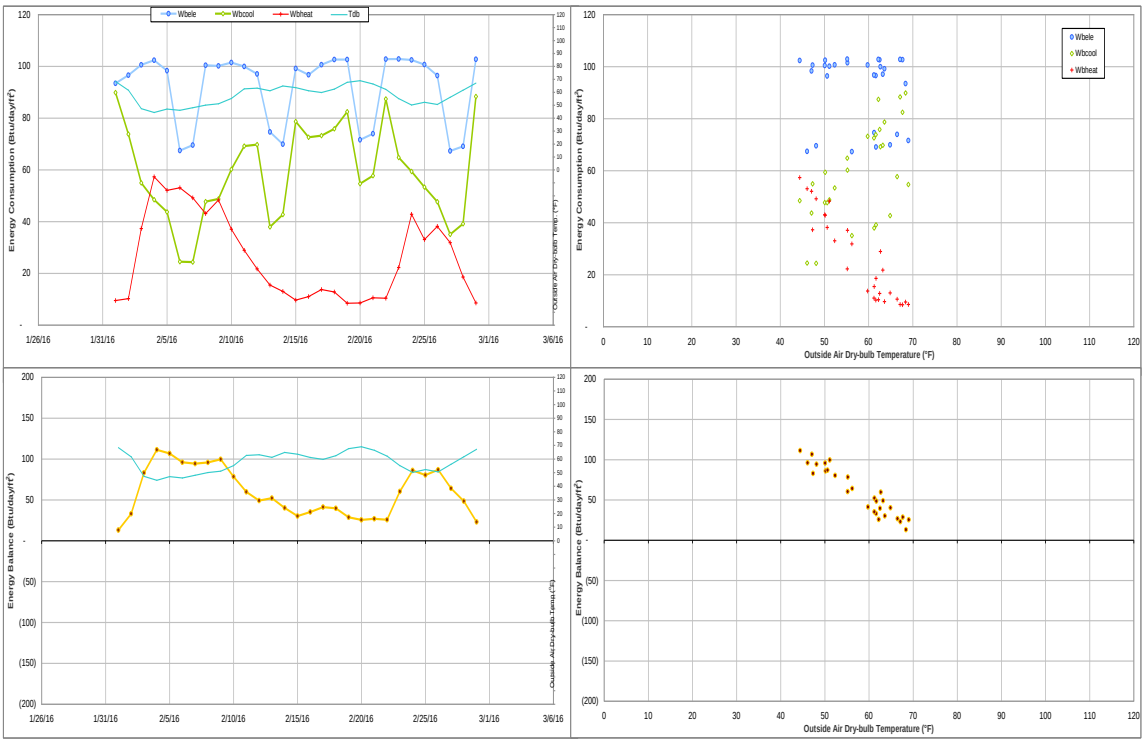


Figure IV-90 Thompson Hall TAMU BLDG # 483 Energy Balance Plot during February 2016

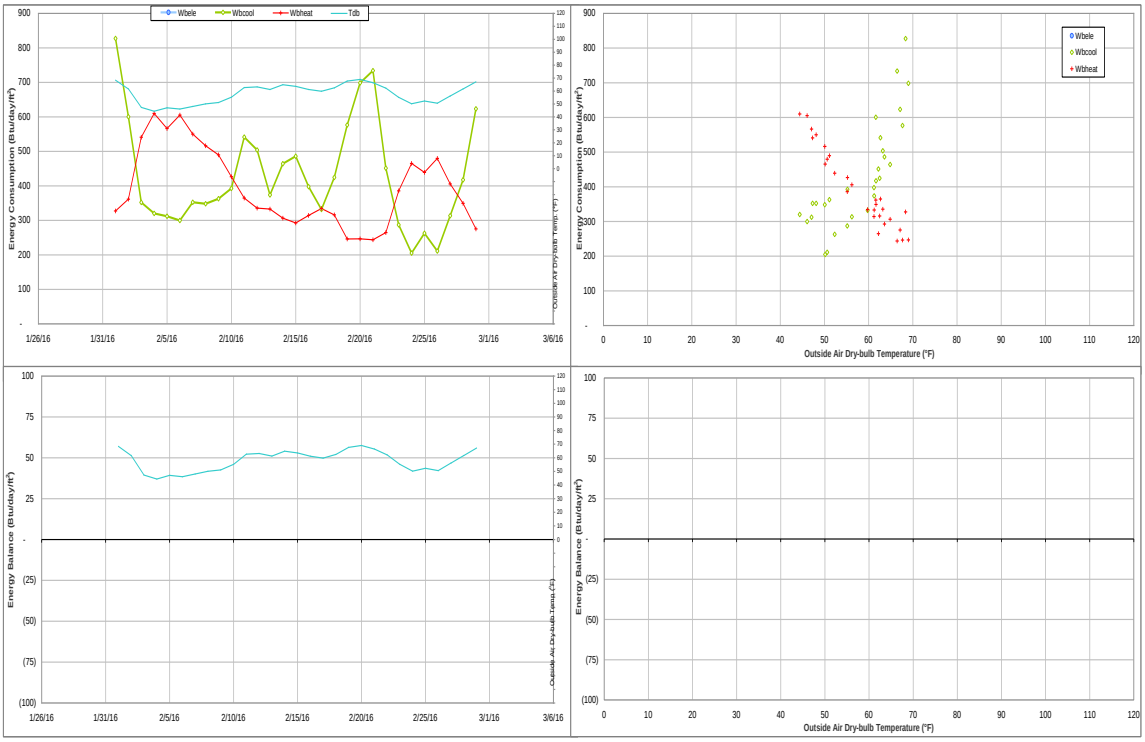


Figure IV-91 Chemistry Building TAMU BLDG # 484 Energy Balance Plot during February 2016

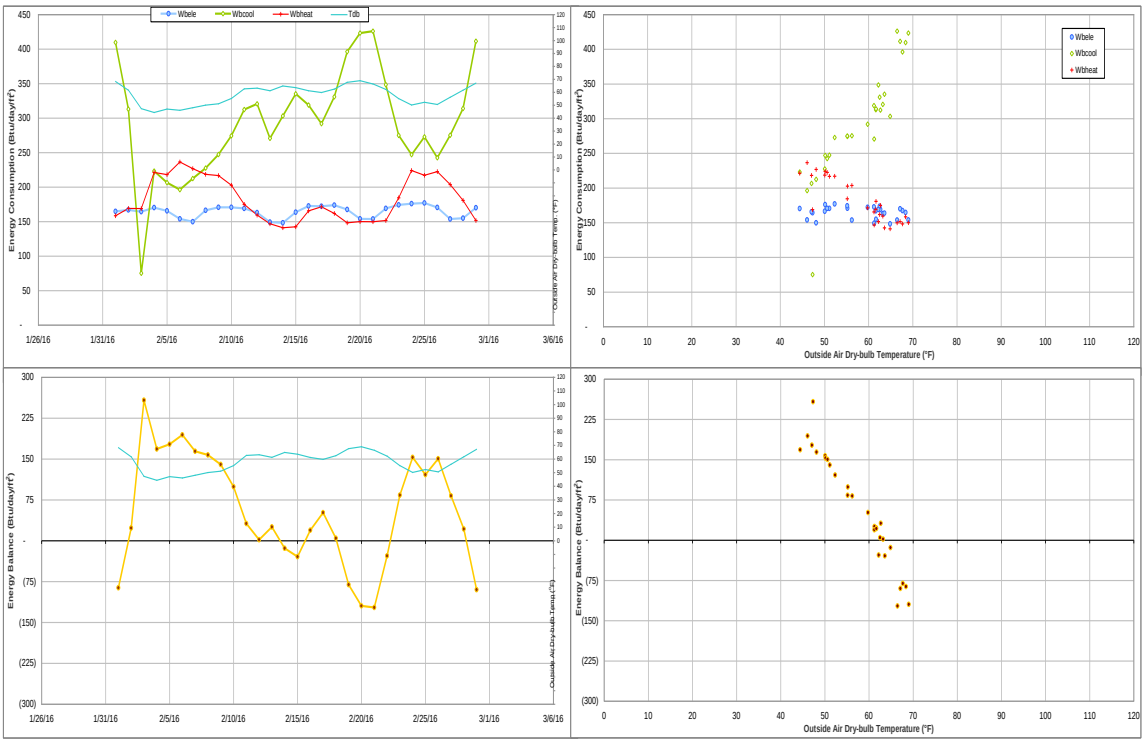


Figure IV-92 Halbouty Geosciences Building TAMU BLDG # 490 Energy Balance Plot during February 2016

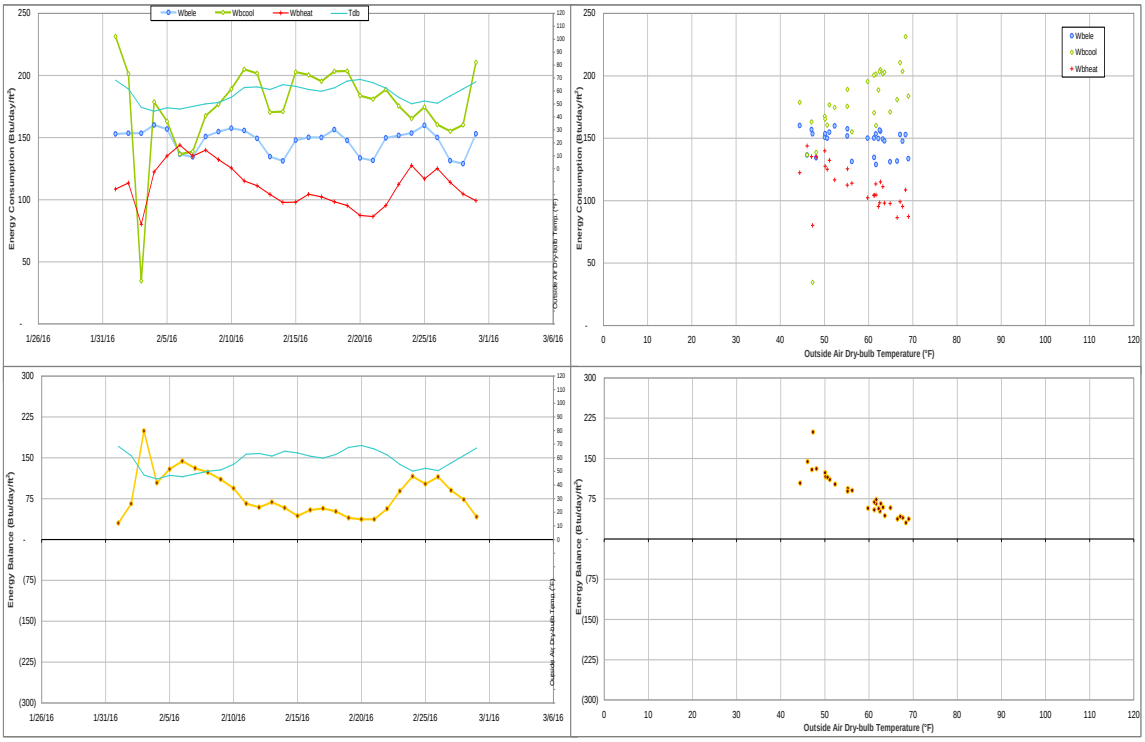


Figure IV-93 Civil Engineering Building TAMU BLDG # 492 Energy Balance Plot during February 2016

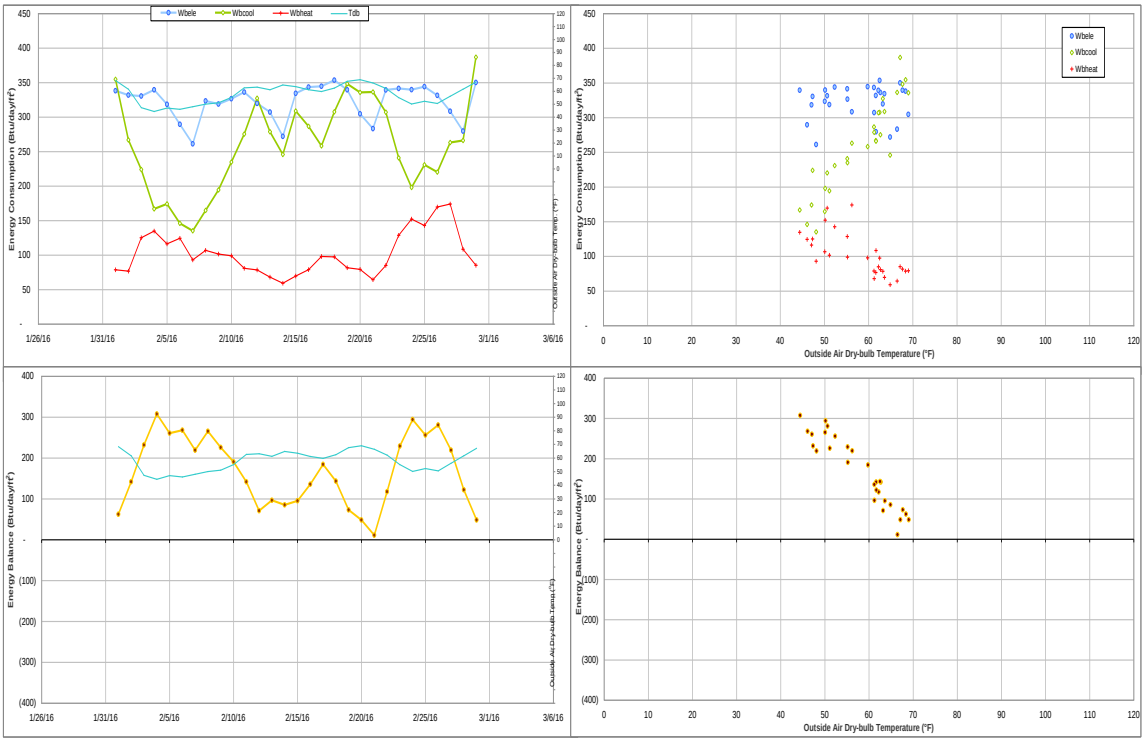


Figure IV-94 Sbisa Dining Hall TAMU BLDG # 495 Energy Balance Plot during February 2016

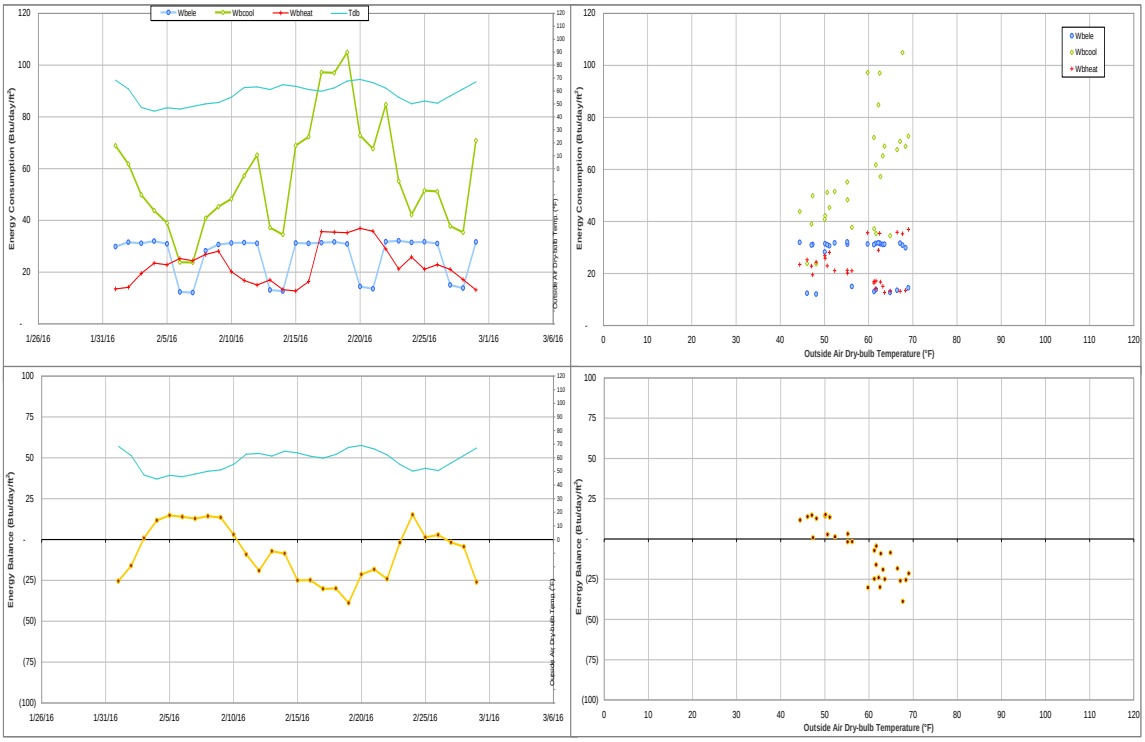


Figure IV-95 Utilities & Energy Services Central Office TAMU BLDG # 496 Energy Balance Plot during February 2016

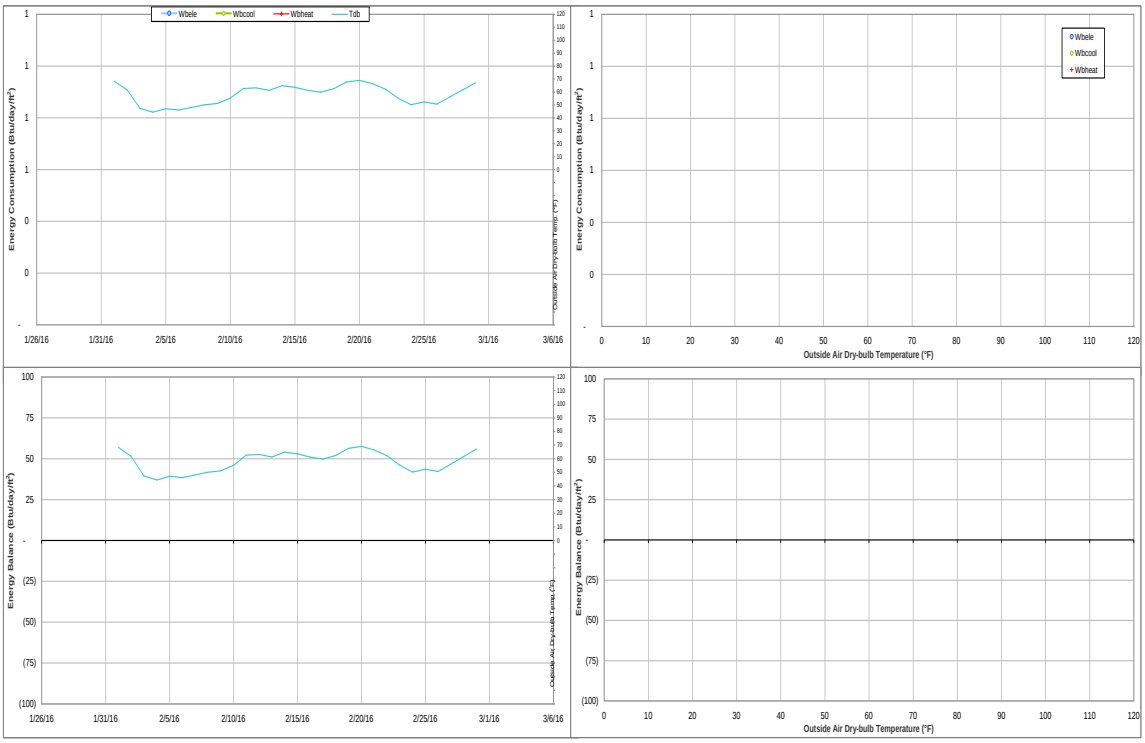


Figure IV-96 Concrete Materials Laboratory TAMU BLDG # 501 Energy Balance Plot during February 2016

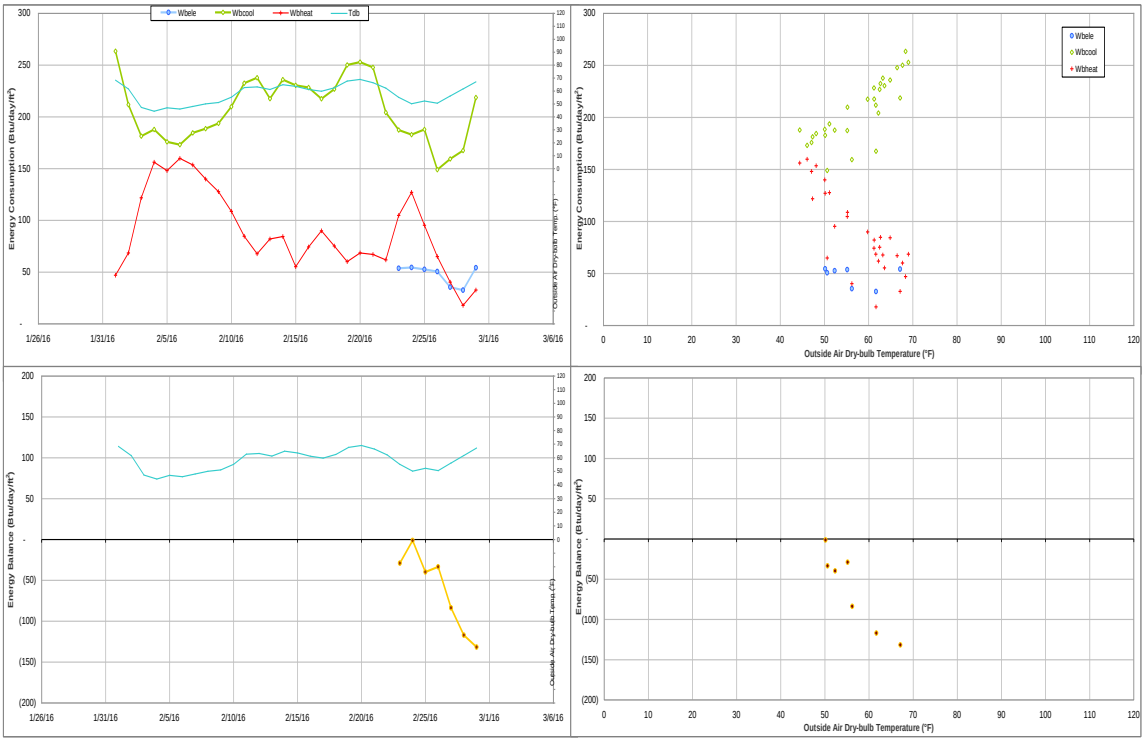


Figure IV-97 Nagle Hall TAMU BLDG # 506 Energy Balance Plot during February 2016

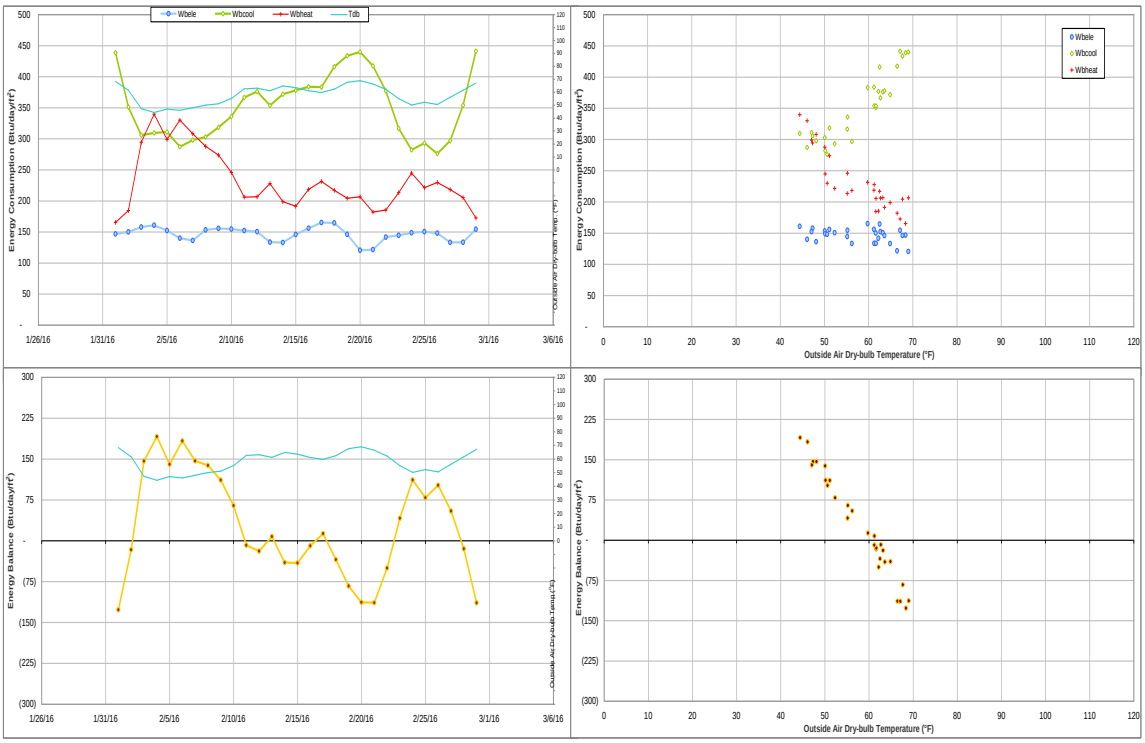


Figure IV-98 Veterinary Medical Science Building TAMU BLDG # 507 Energy Balance Plot during February 2016

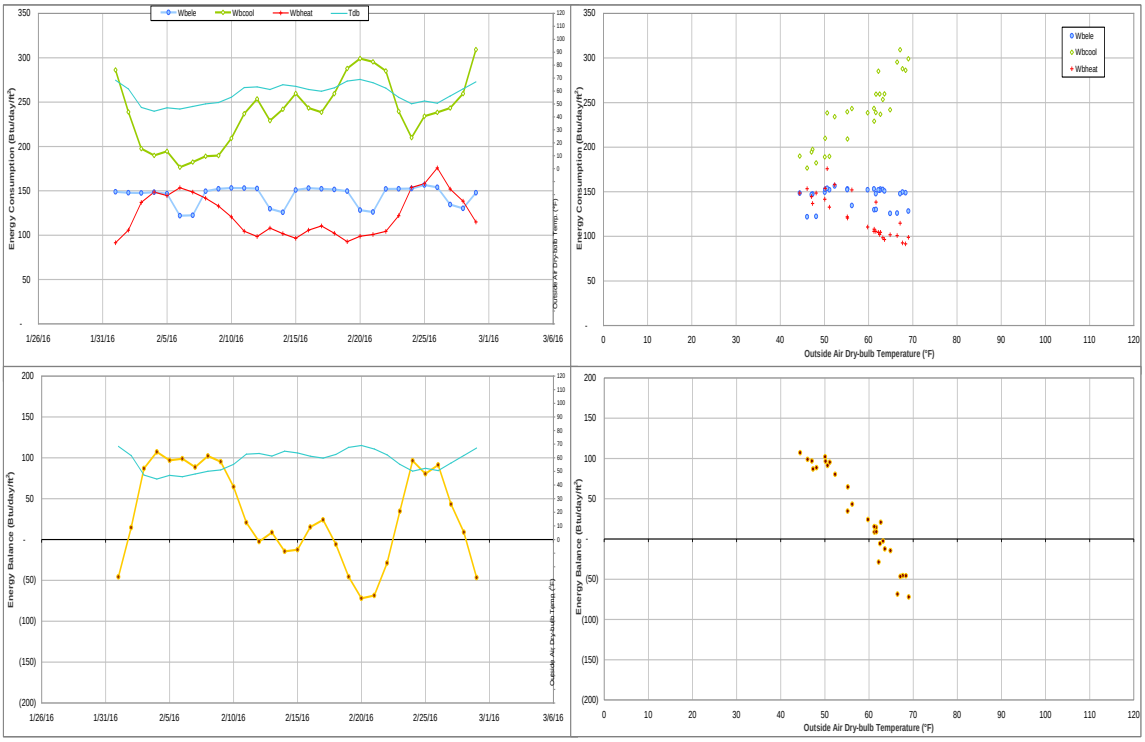


Figure IV-99 Veterinary Teaching Hospital and Veterinary Medicine Administration TAMU BLDG # 508-1026 Energy Balance Plot during February 2016

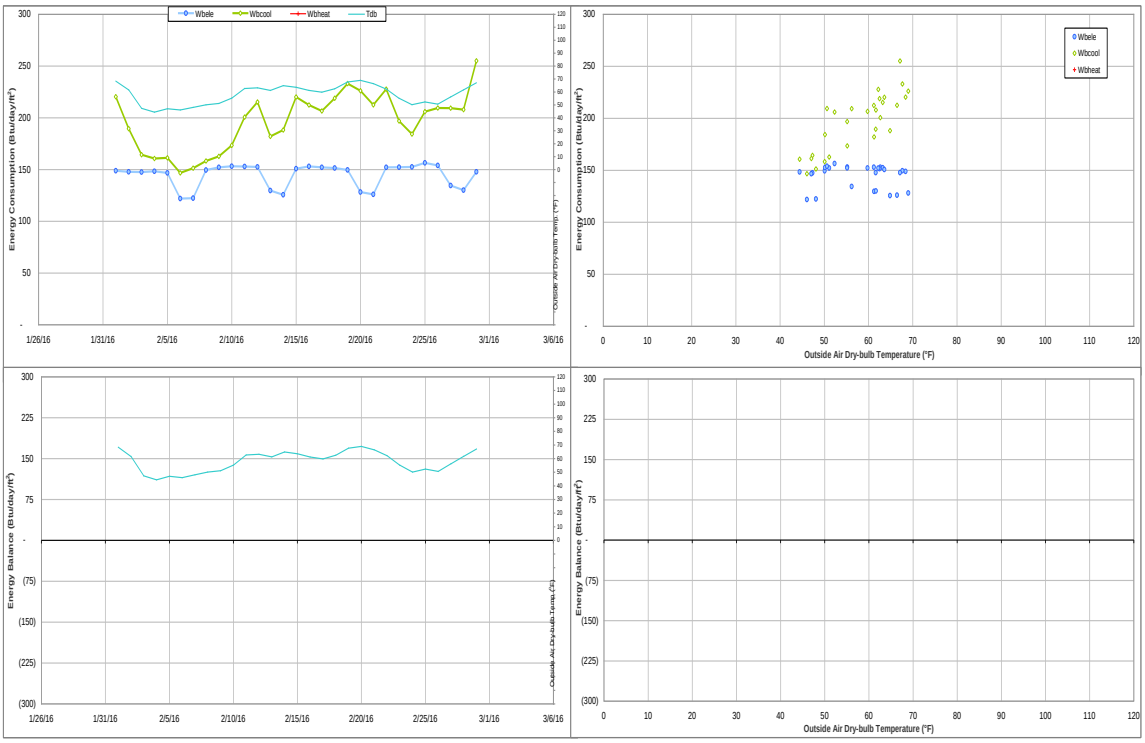


Figure IV-100 Veterinary Teaching Hospital TAMU BLDG # 508 Energy Balance Plot during February 2016

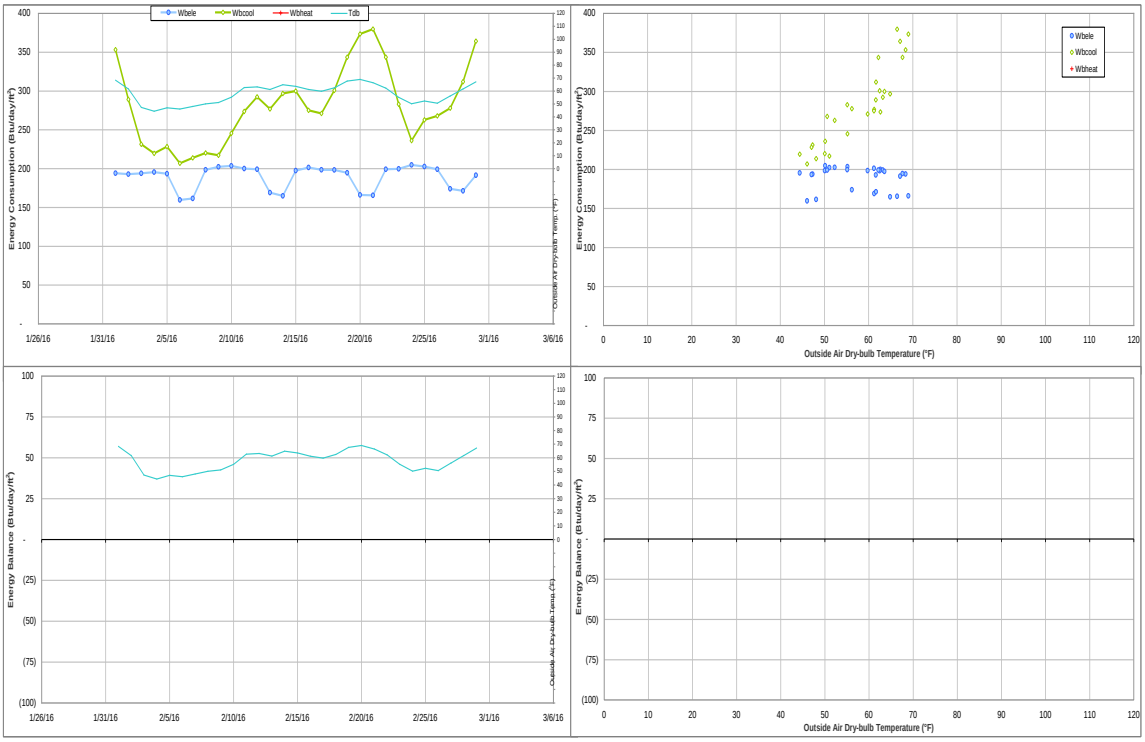


Figure IV-101 Veterinary Medicine Administration TAMU BLDG # 1026 Energy Balance Plot during February 2016

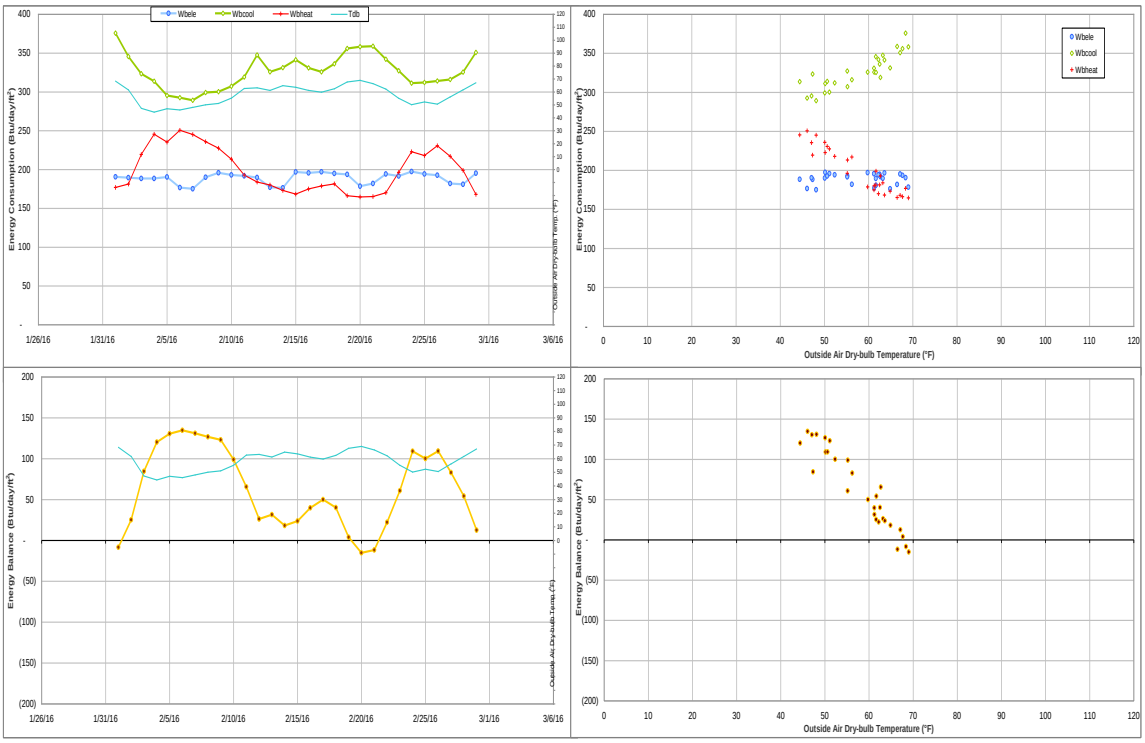


Figure IV-102 Heep Laboratory Building TAMU BLDG # 511 Energy Balance Plot during February 2016

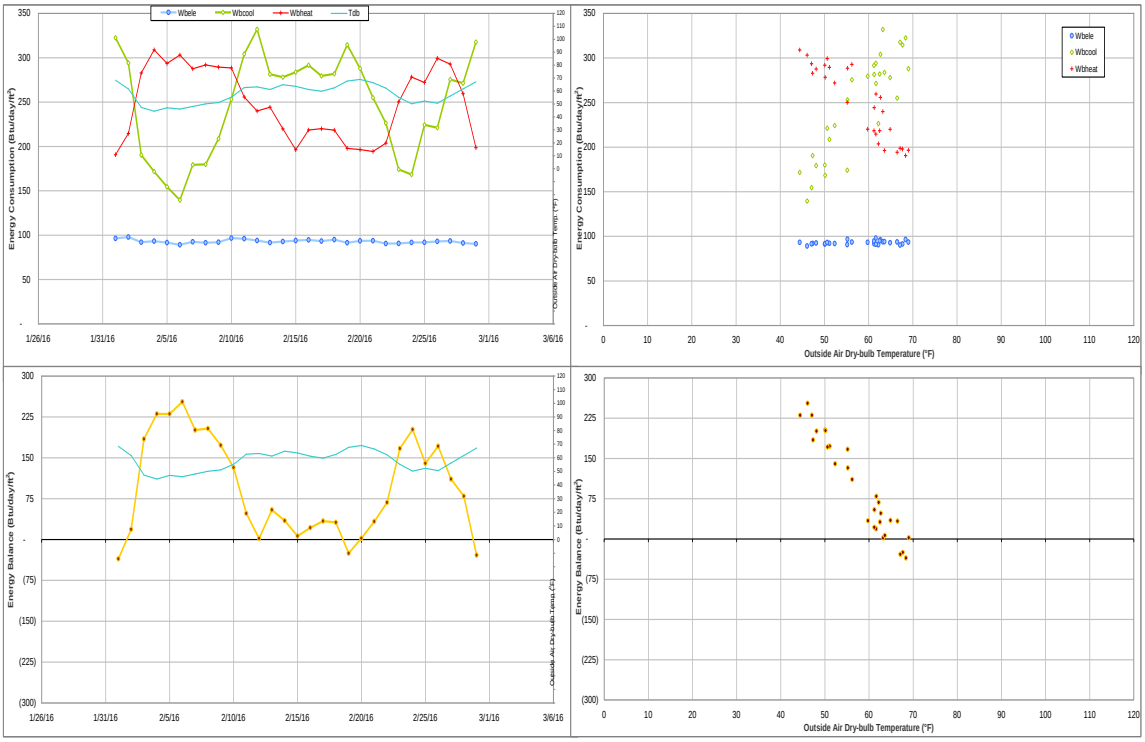


Figure IV-103 All Faiths Chapel TAMU BLDG # 512 Energy Balance Plot during February 2016

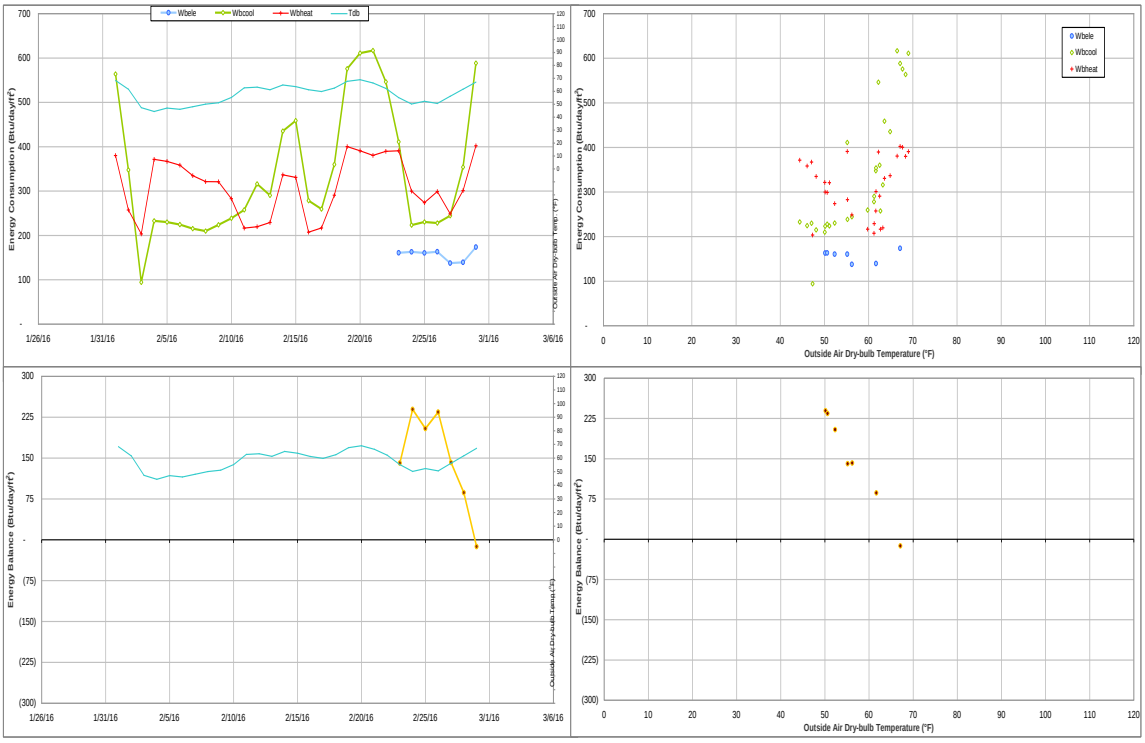


Figure IV-104 Doherty Building TAMU BLDG # 513 Energy Balance Plot during February 2016

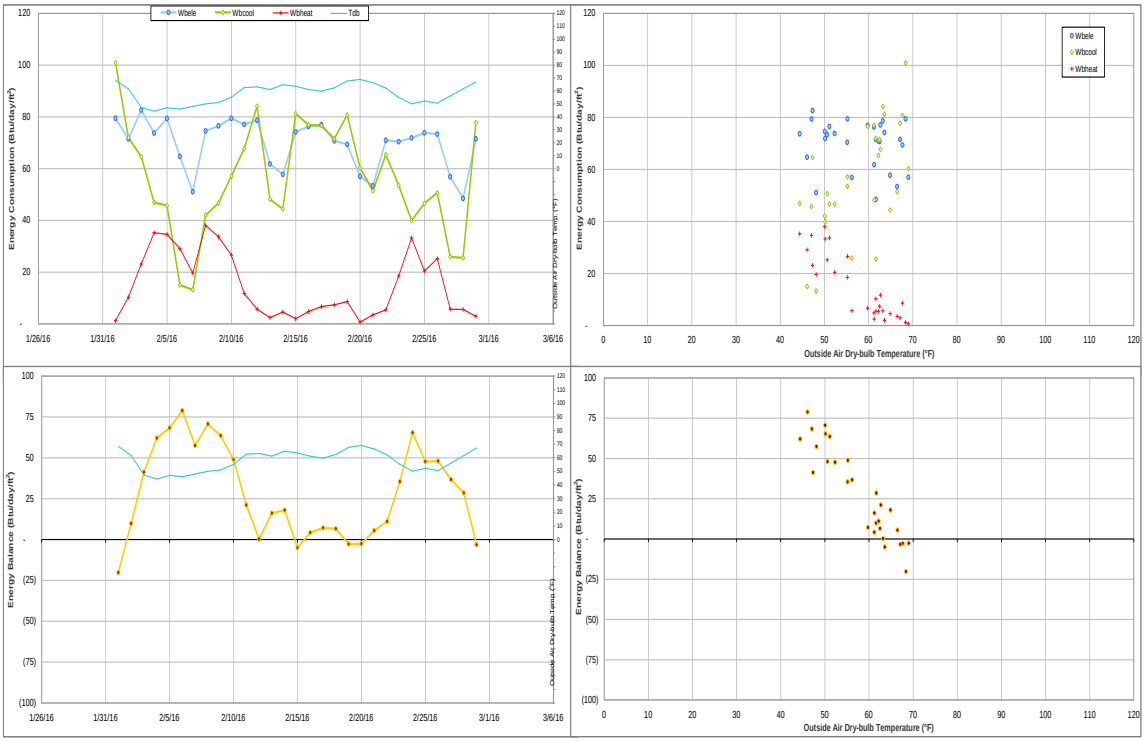


Figure IV-105 Munnerlyn Astronomy & Space Sciences Engineering TAMU BLDG # 514 Energy Balance Plot during February 2016

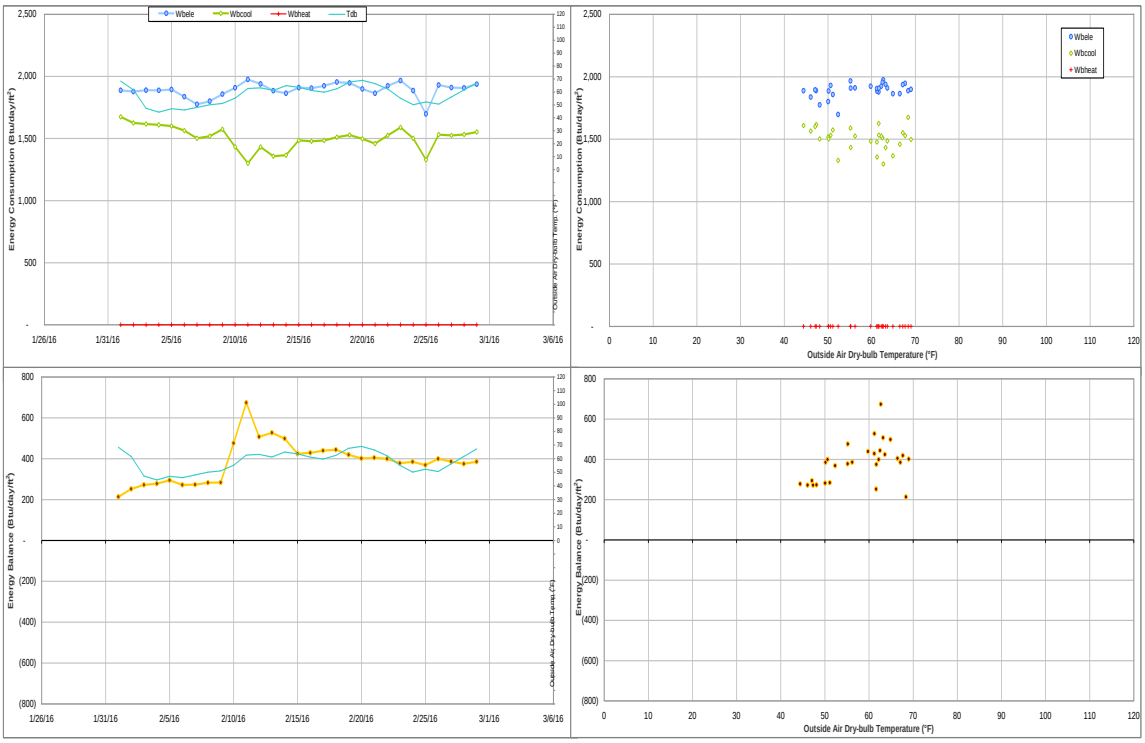


Figure IV-106 Computing Services Center TAMU BLDG # 516 Energy Balance Plot during February 2016

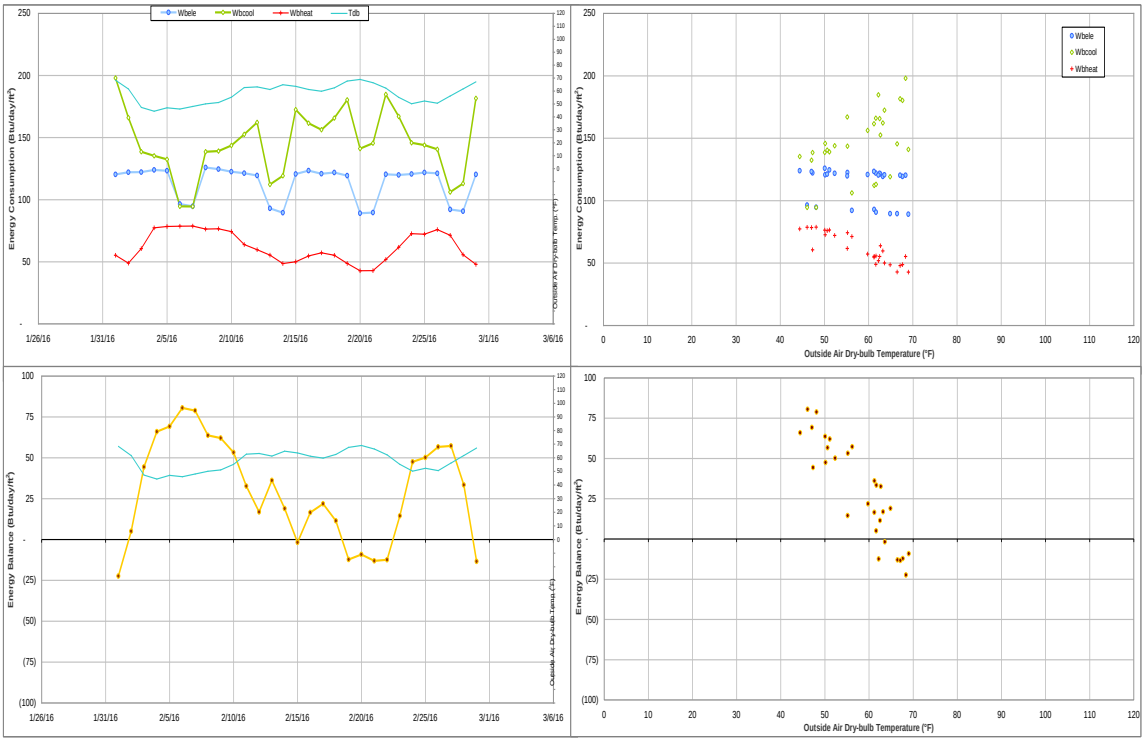


Figure IV-107 Beutel Health Center TAMU BLDG # 520 Energy Balance Plot during February 2016

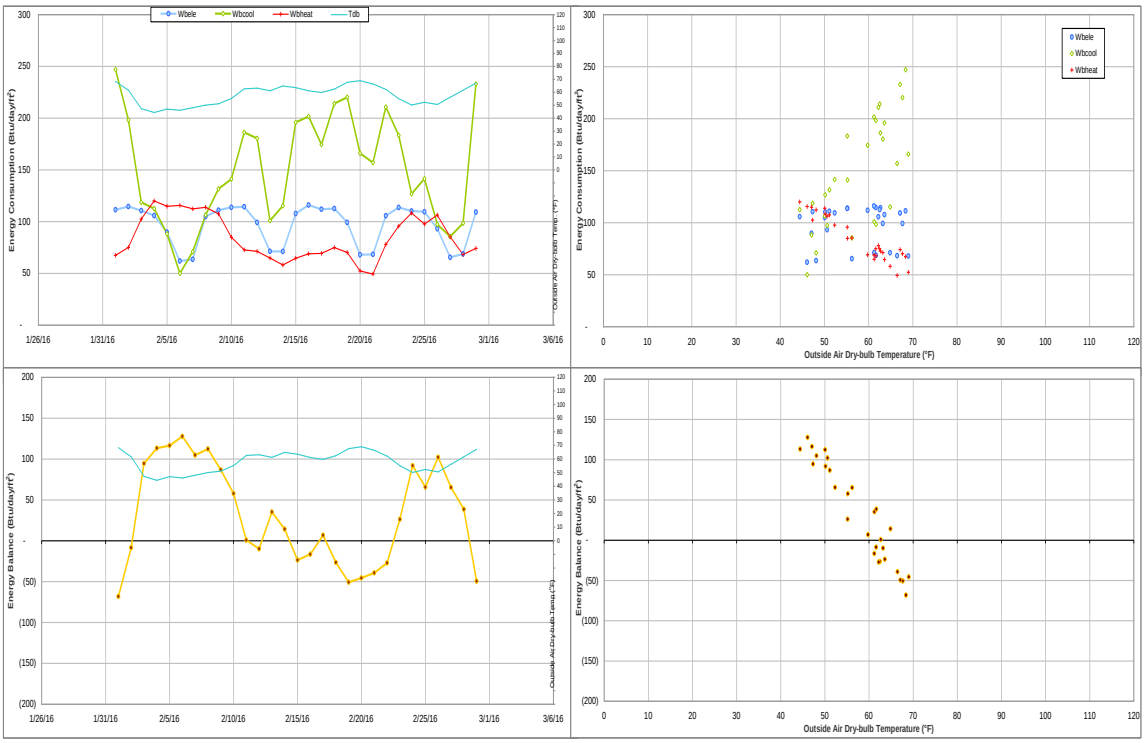


Figure IV-108 Heldenfels Hall TAMU BLDG # 521 Energy Balance Plot during February 2016

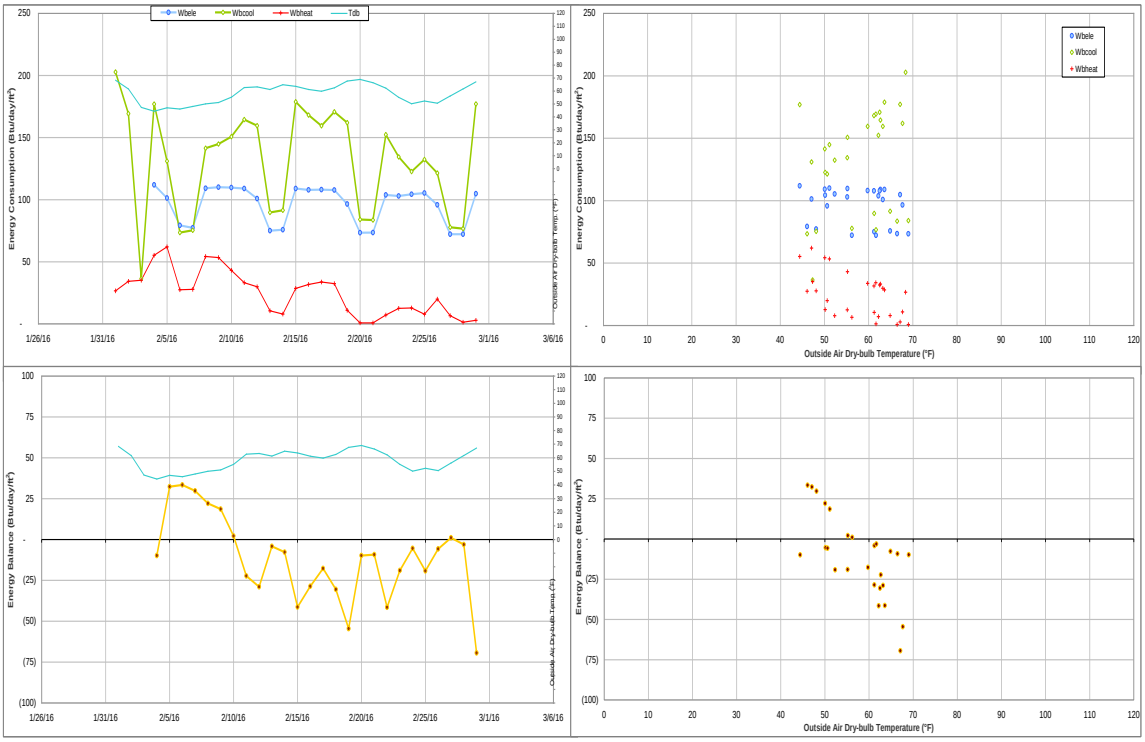


Figure IV-109 Blocker building TAMU BLDG # 524 Energy Balance Plot during February 2016

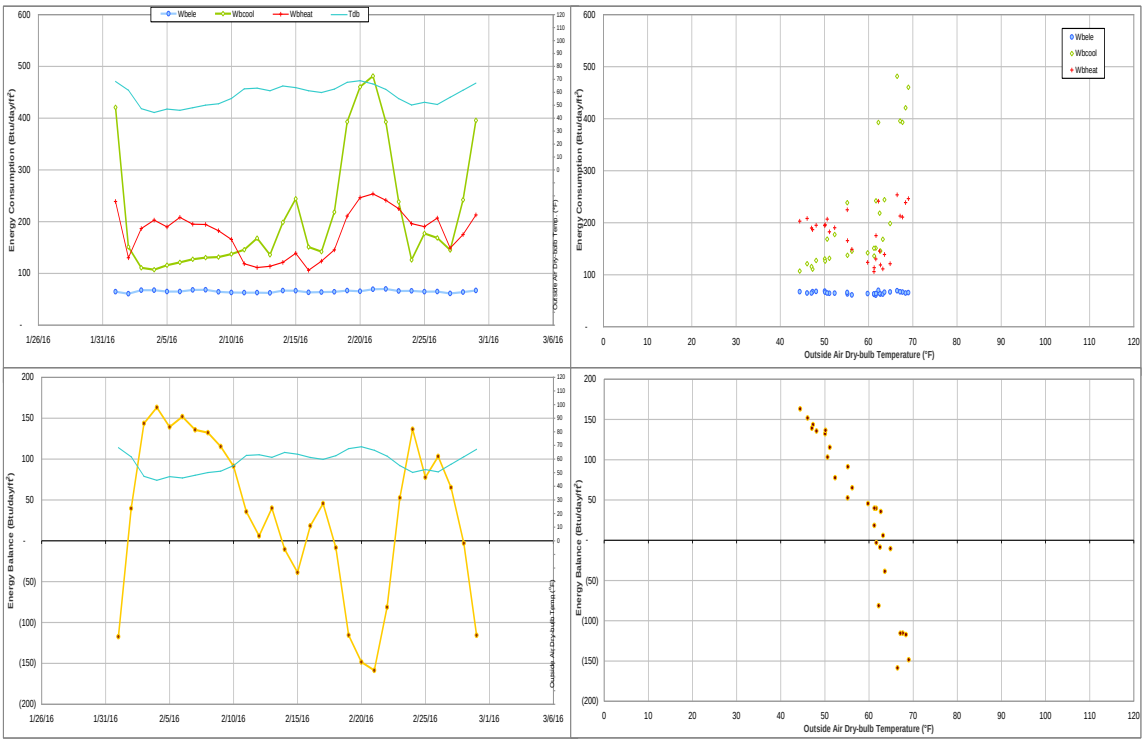


Figure IV-110 Clements Residence Hall TAMU BLDG # 548 Energy Balance Plot during February 2016

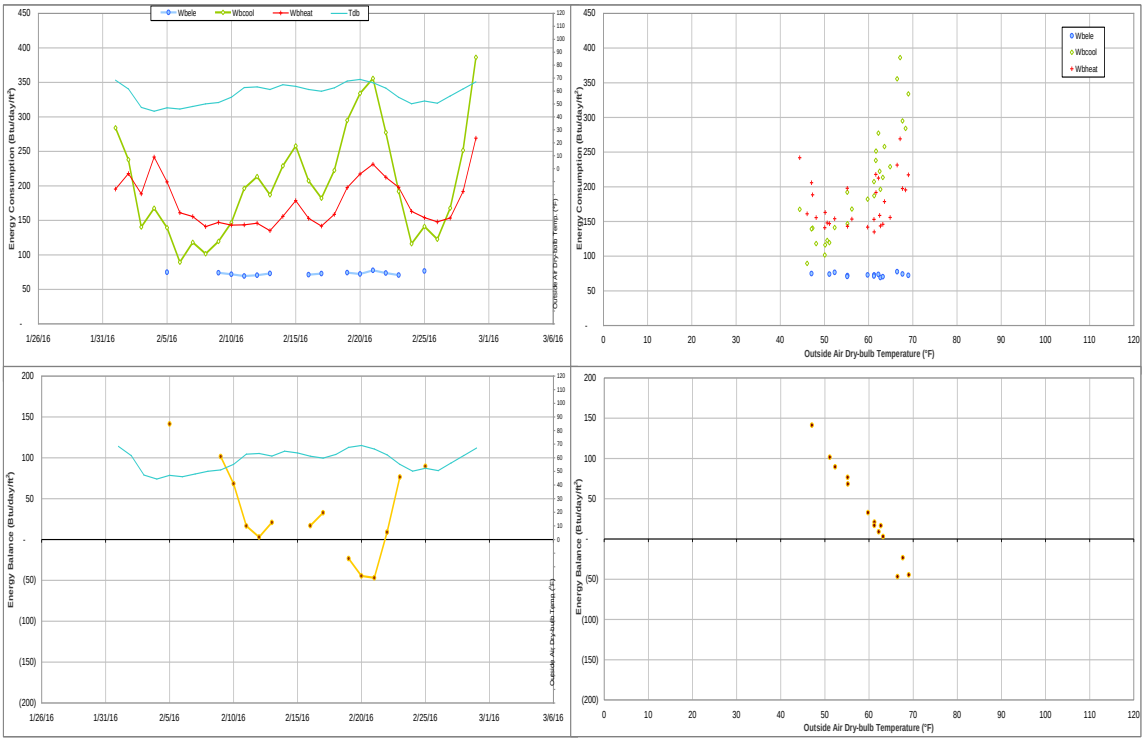


Figure IV-111 Haas Residence Hall TAMU BLDG # 549 Energy Balance Plot during February 2016

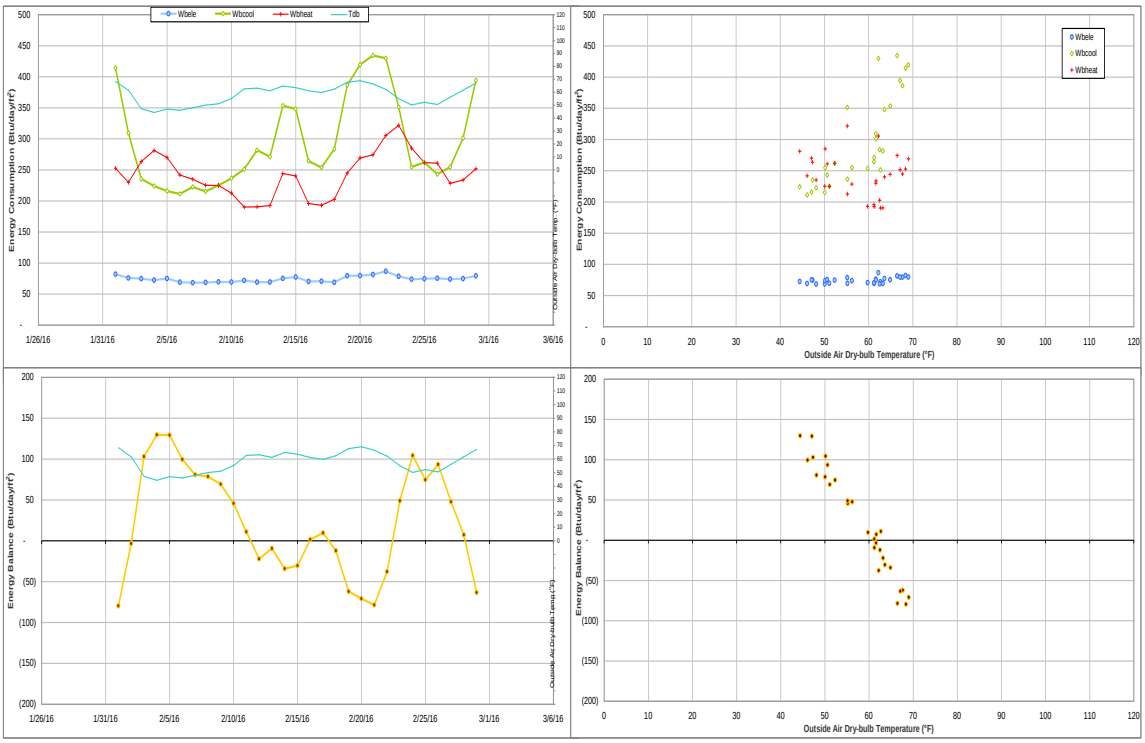


Figure IV-112 McFadden Residence Hall TAMU BLDG # 550 Energy Balance Plot during February 2016

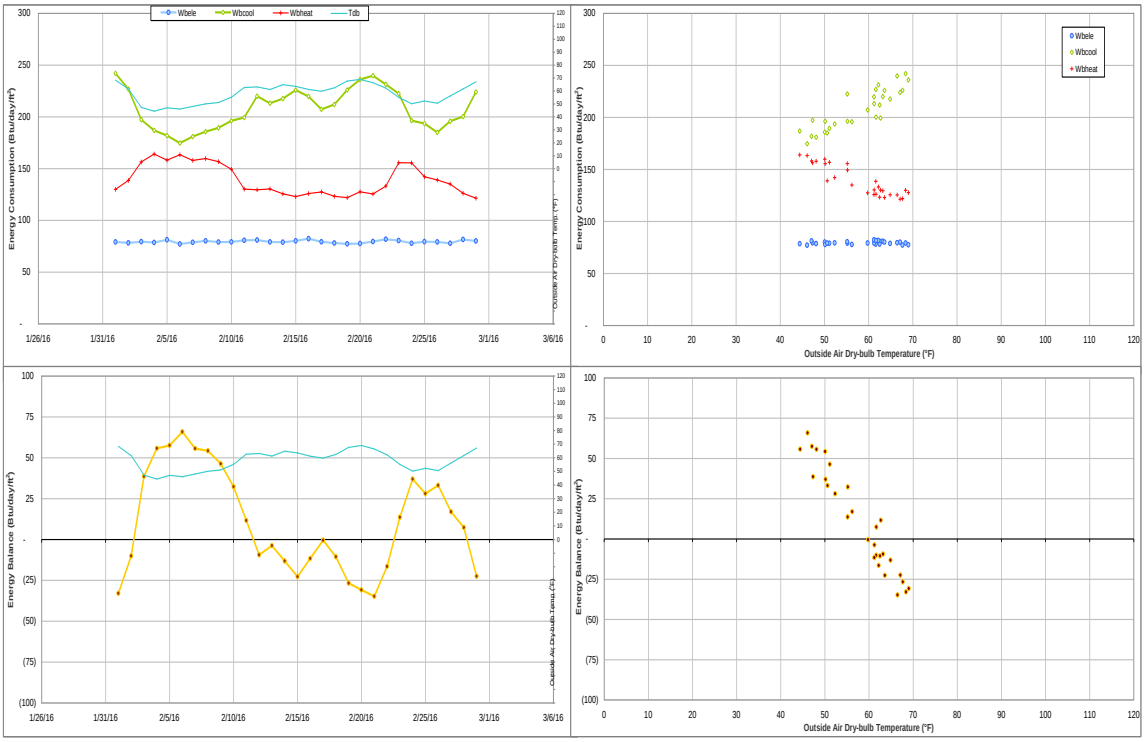


Figure IV-113 Neeley Residence Hall TAMU BLDG # 652 Energy Balance Plot during February 2016

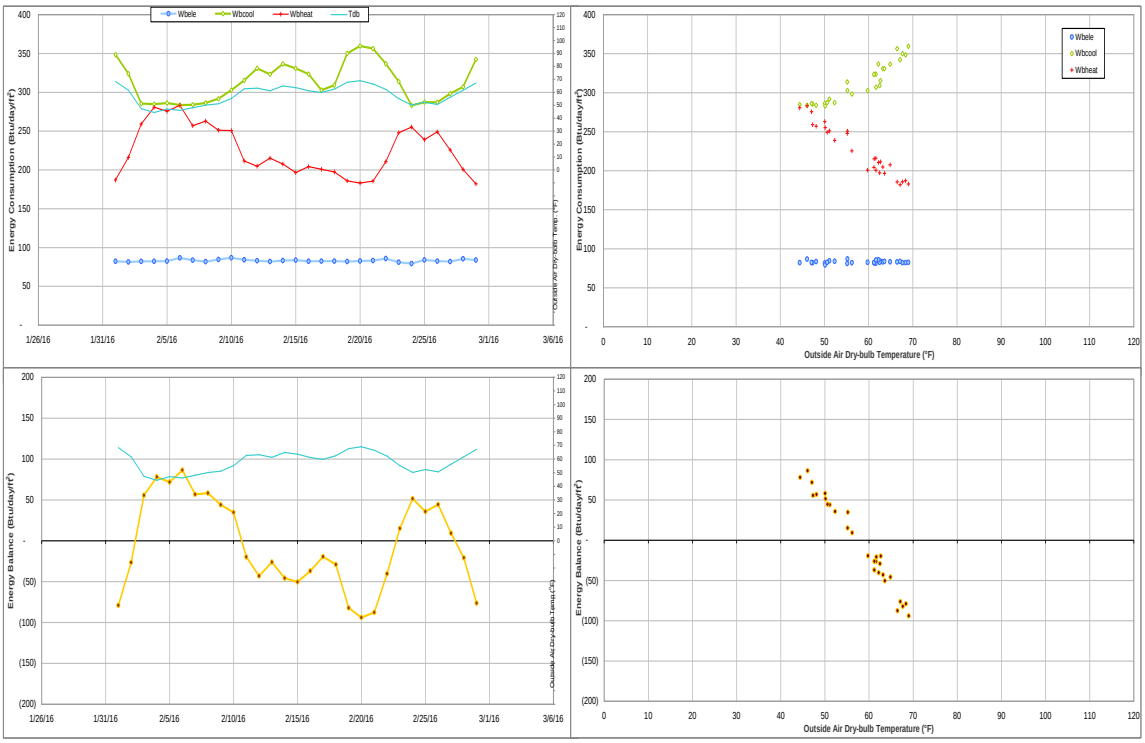


Figure IV-114 Hobby Residence Hall TAMU BLDG # 653 Energy Balance Plot during February 2016

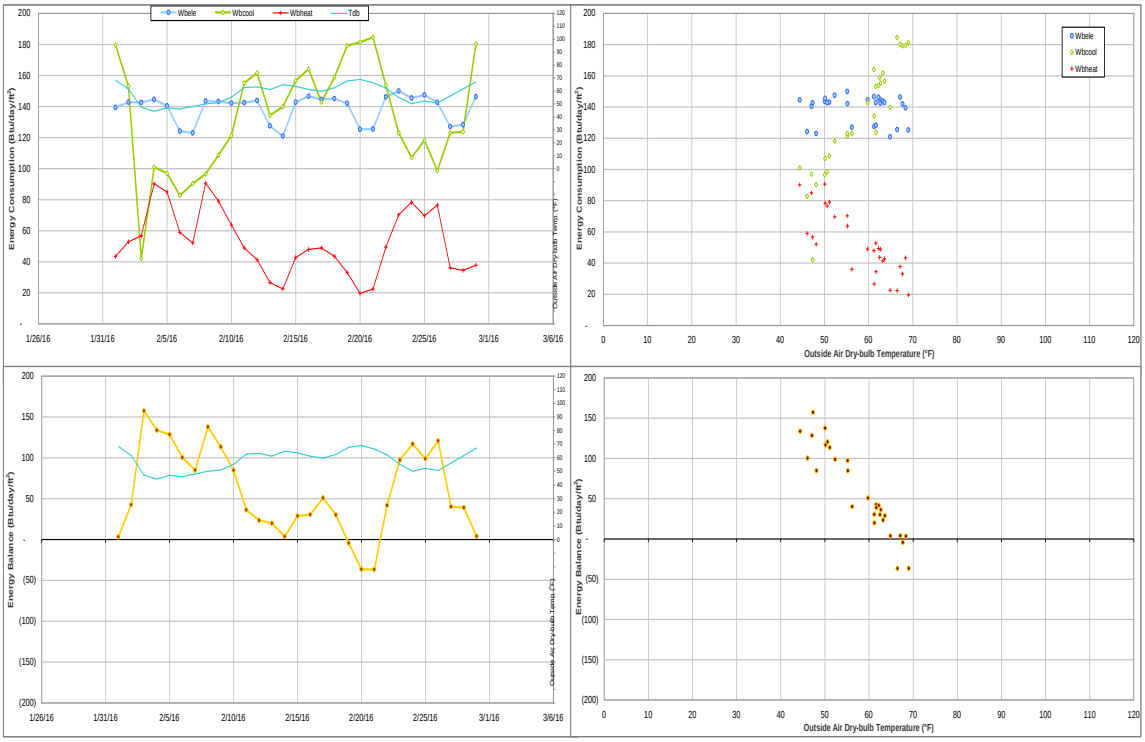


Figure IV-115 Wisenbaker Engineering Research Center TAMU BLDG # 682 Energy Balance Plot during February 2016

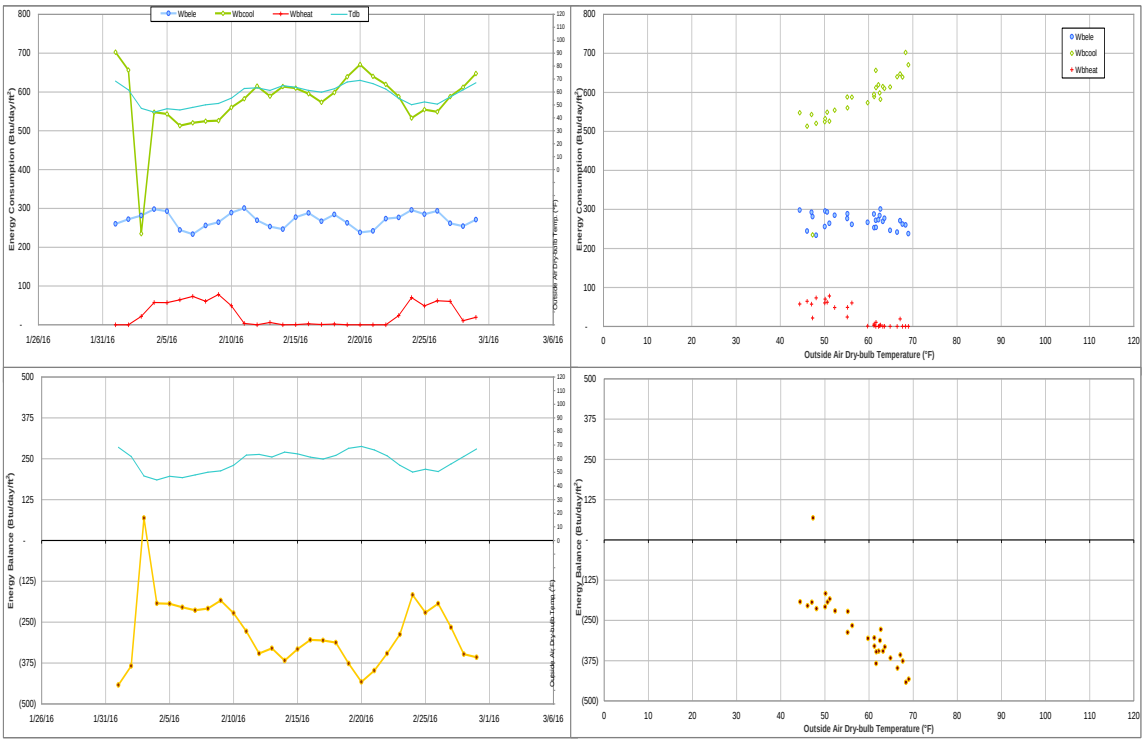


Figure IV-116 McNew Laboratory TAMU BLDG # 740 Energy Balance Plot during February 2016

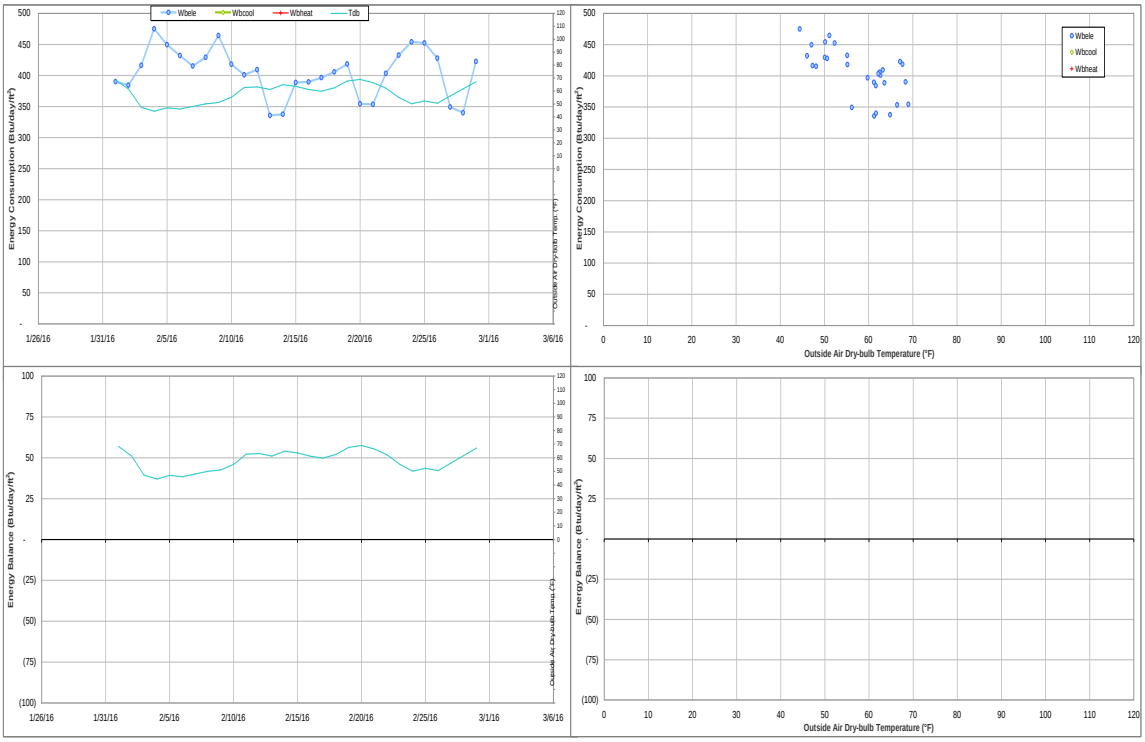


Figure IV-117 Soil Testing Labs TAMU BLDG # 806 Energy Balance Plot during February 2016

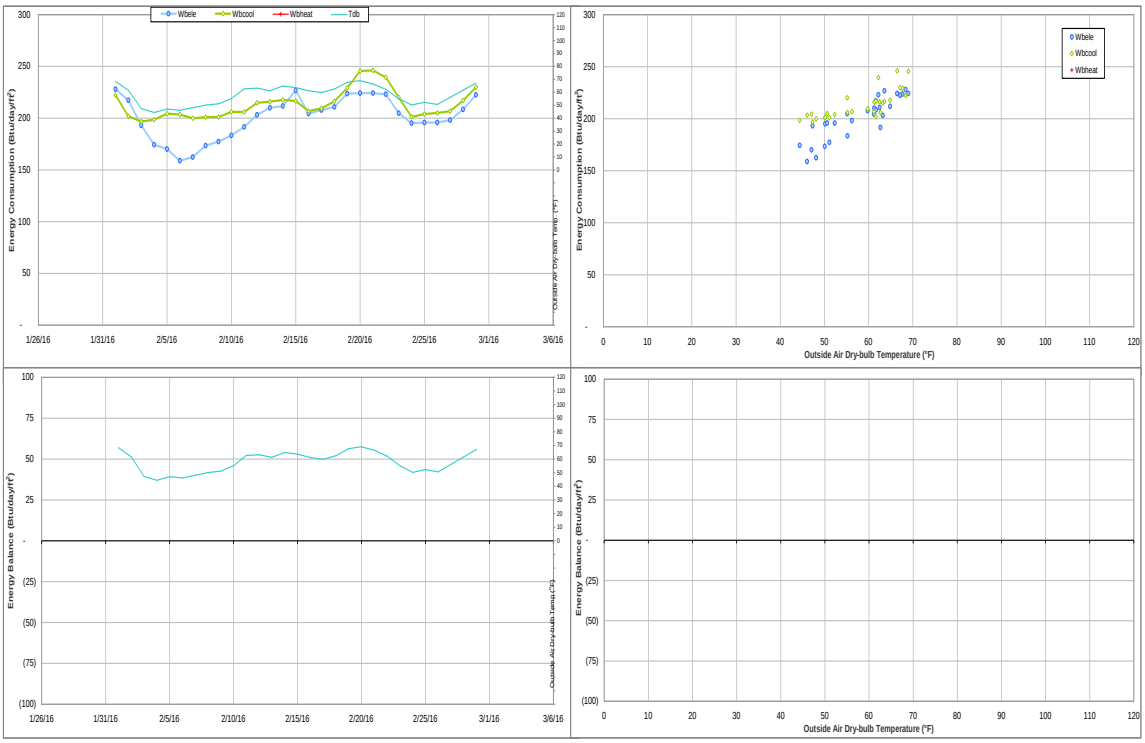


Figure IV-118 Entomology Research Lab TAMU BLDG # 815 Energy Balance Plot during February 2016

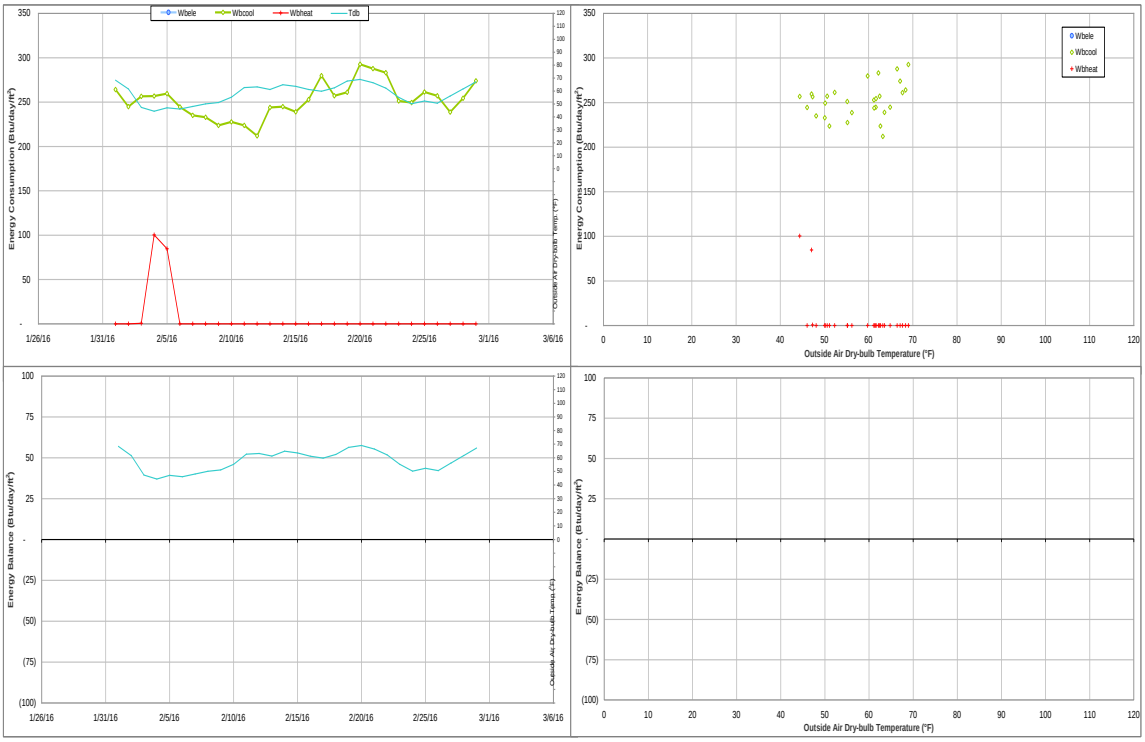


Figure IV-119 TVMC-Small Animal Building TAMU BLDG # 880 Energy Balance Plot during February 2016

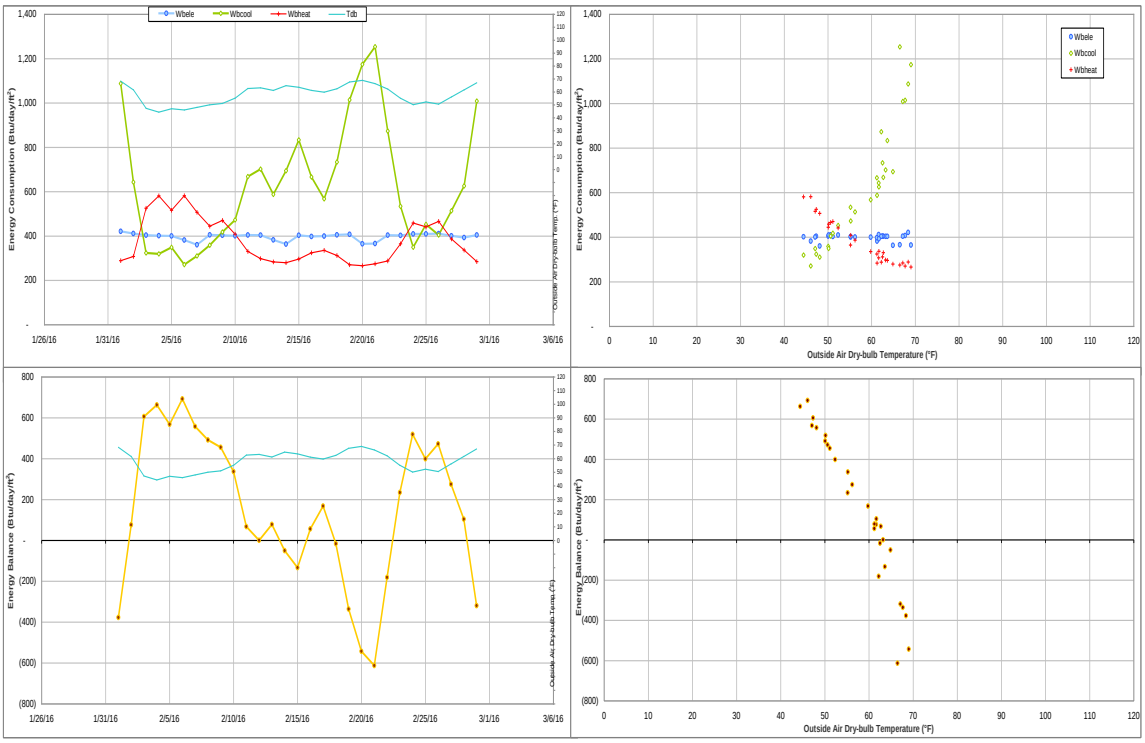


Figure IV-120 Laboratory Animal Care Building TAMU BLDG # 972 Energy Balance Plot during February 2016

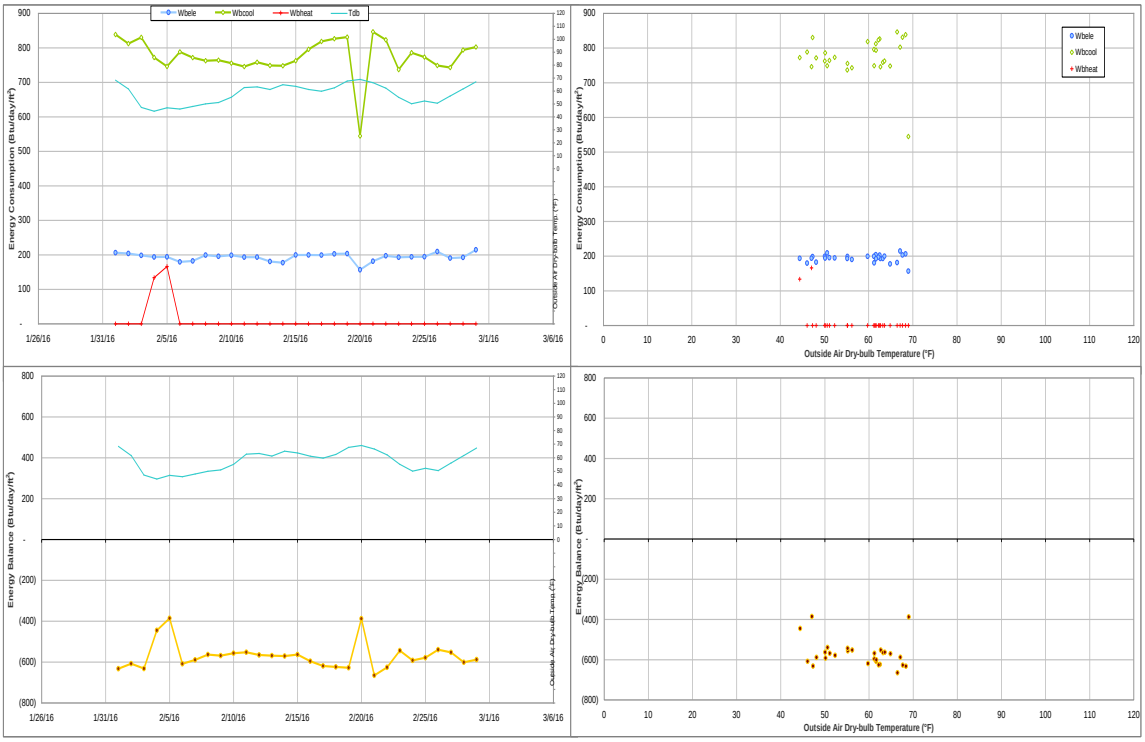


Figure IV-121 Vivarium III TAMU BLDG # 1020 Energy Balance Plot during February 2016

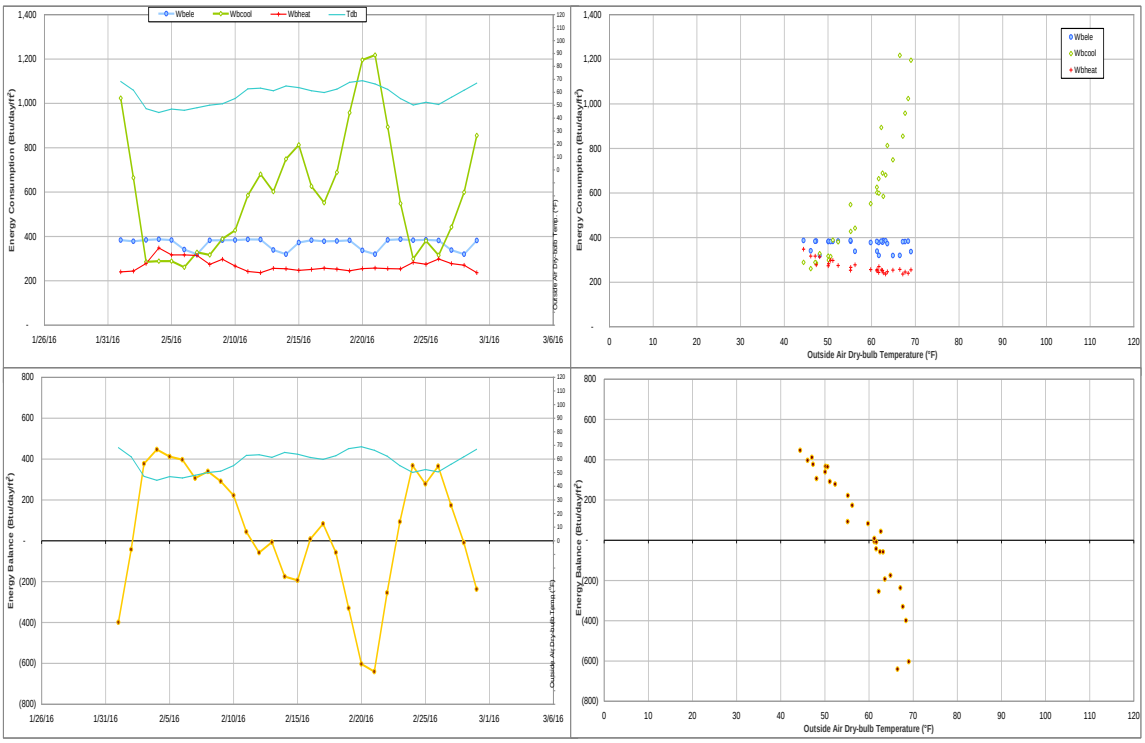


Figure IV-122 Texas Vet Med Diagnostic Lab TAMU BLDG # 1041 Energy Balance Plot during February 2016

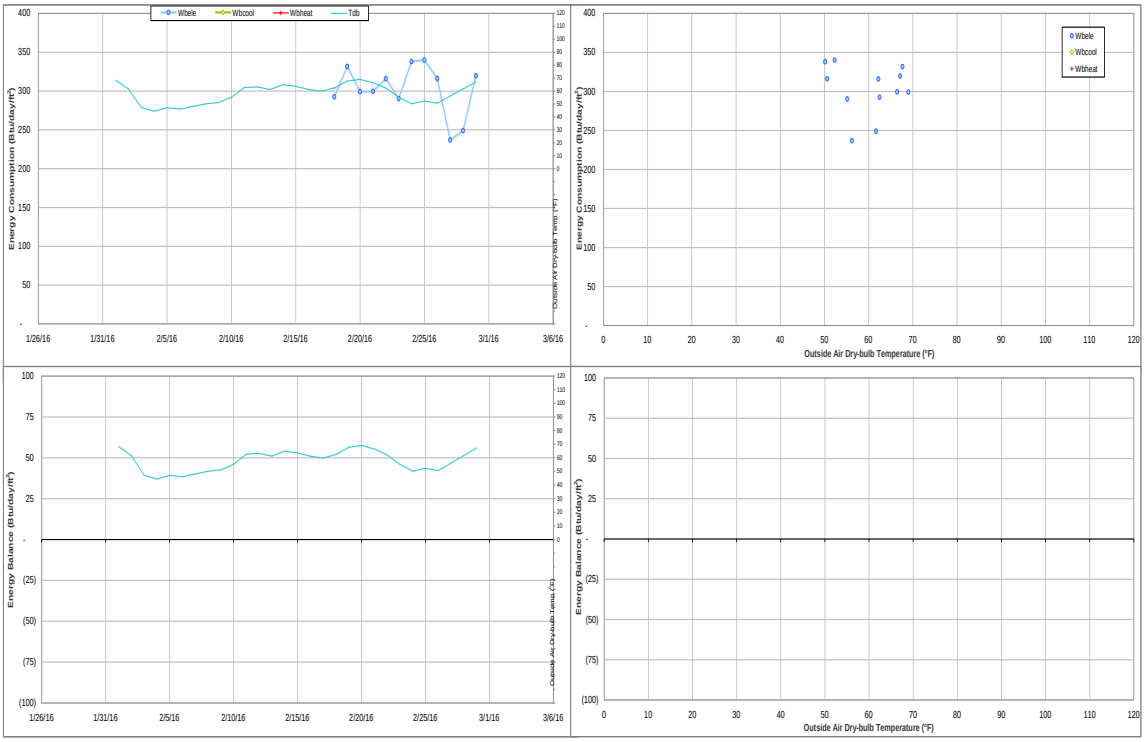


Figure IV-123 Forest Science Laboratory Building TAMU BLDG # 1042 Energy Balance Plot during February 2016

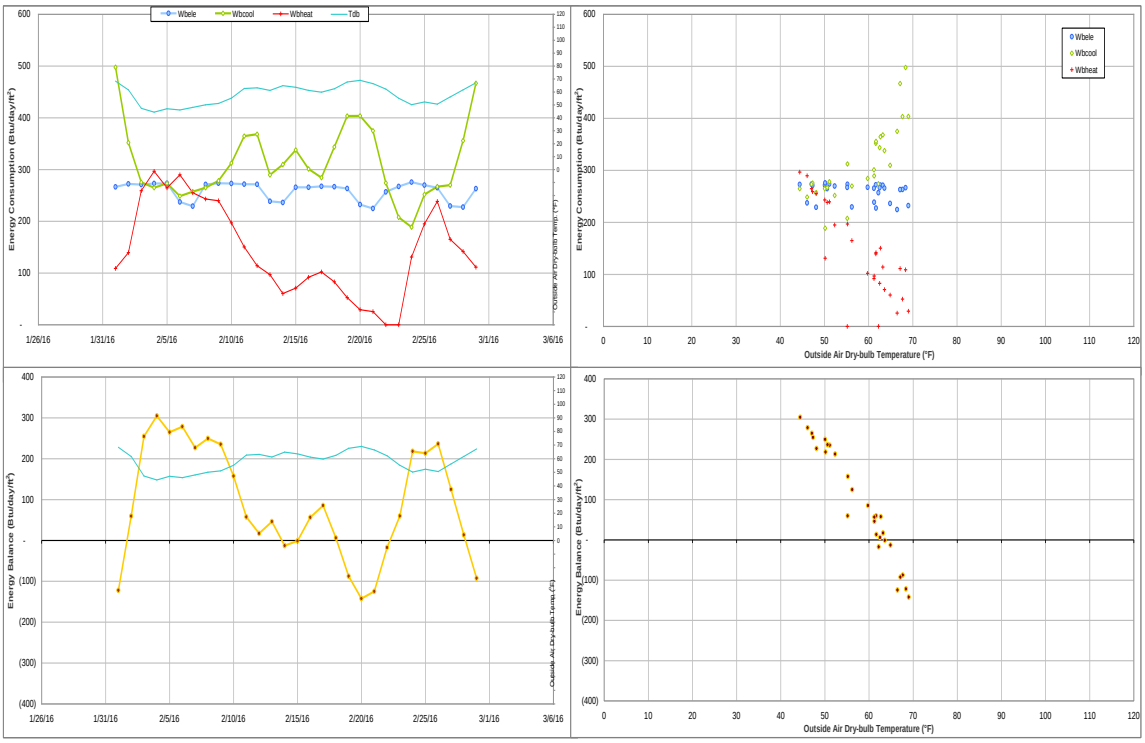


Figure IV-124 Veterinary Small Animal Hospital TAMU BLDG # 1085 Energy Balance Plot during February 2016

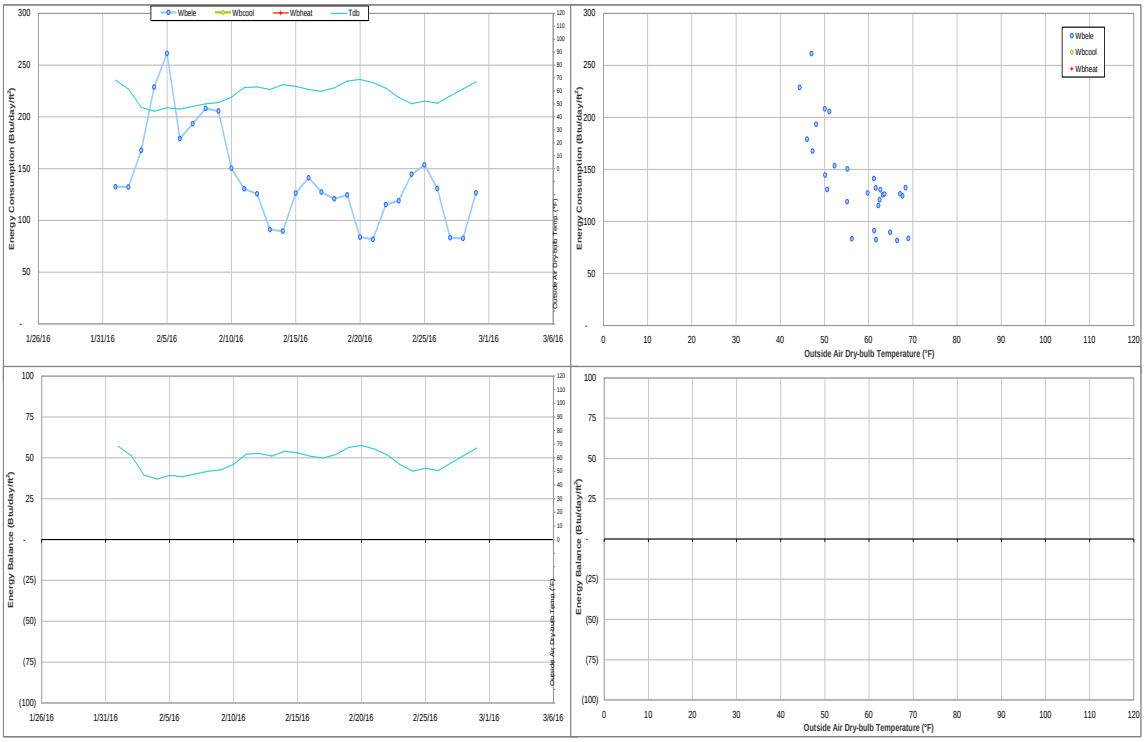


Figure IV-125 Utilities Energy Office Annex TAMU BLDG # 1089 Energy Balance Plot during February 2016

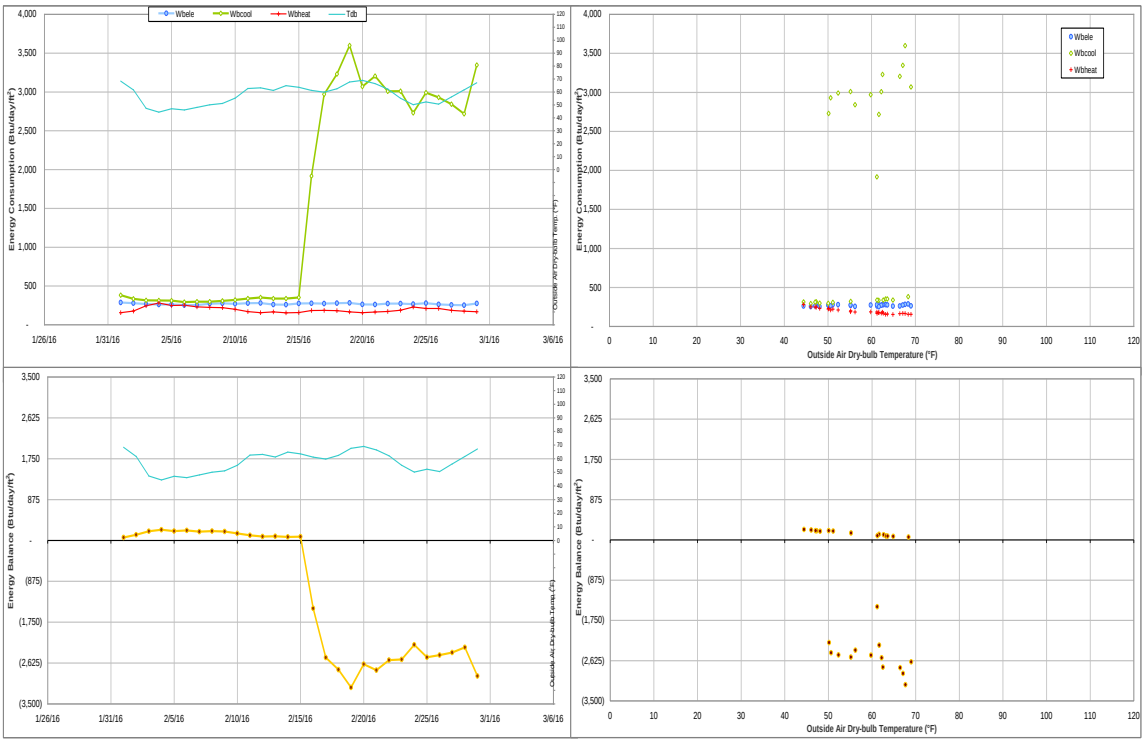


Figure IV-126 Biological Control Facility TAMU BLDG # 1146 Energy Balance Plot during February 2016

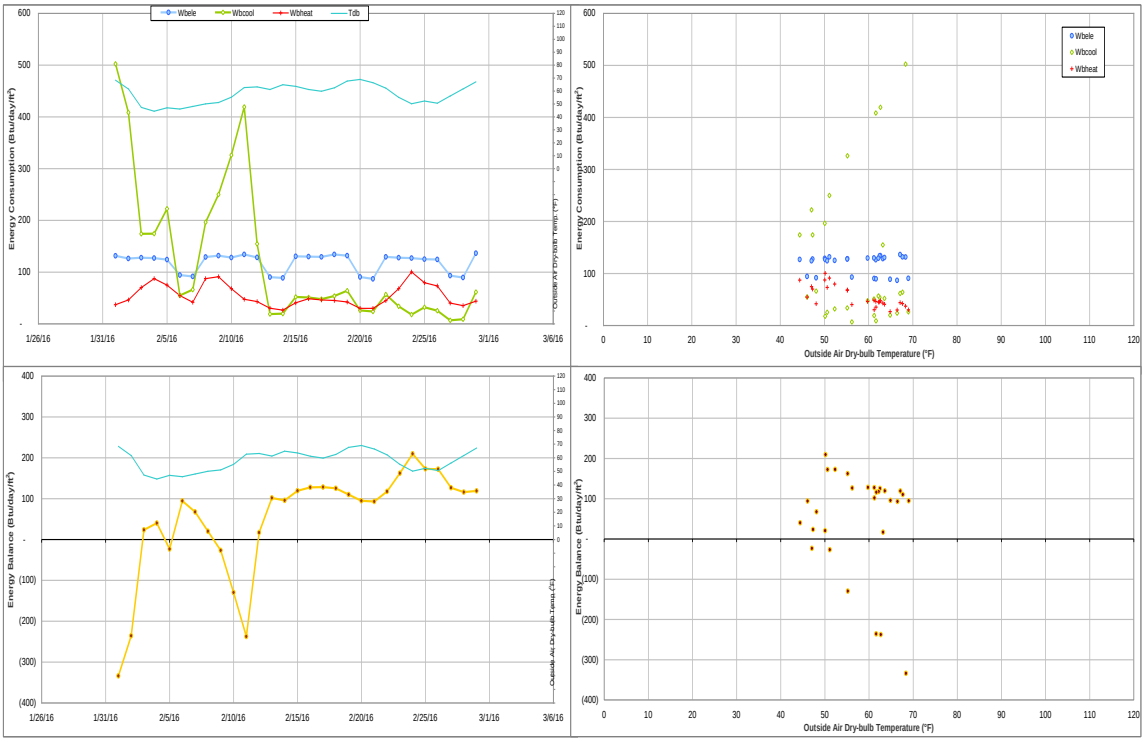


Figure IV-127 Physical Plant Administration & Shops TAMU BLDG # 1156 Energy Balance Plot during February 2016

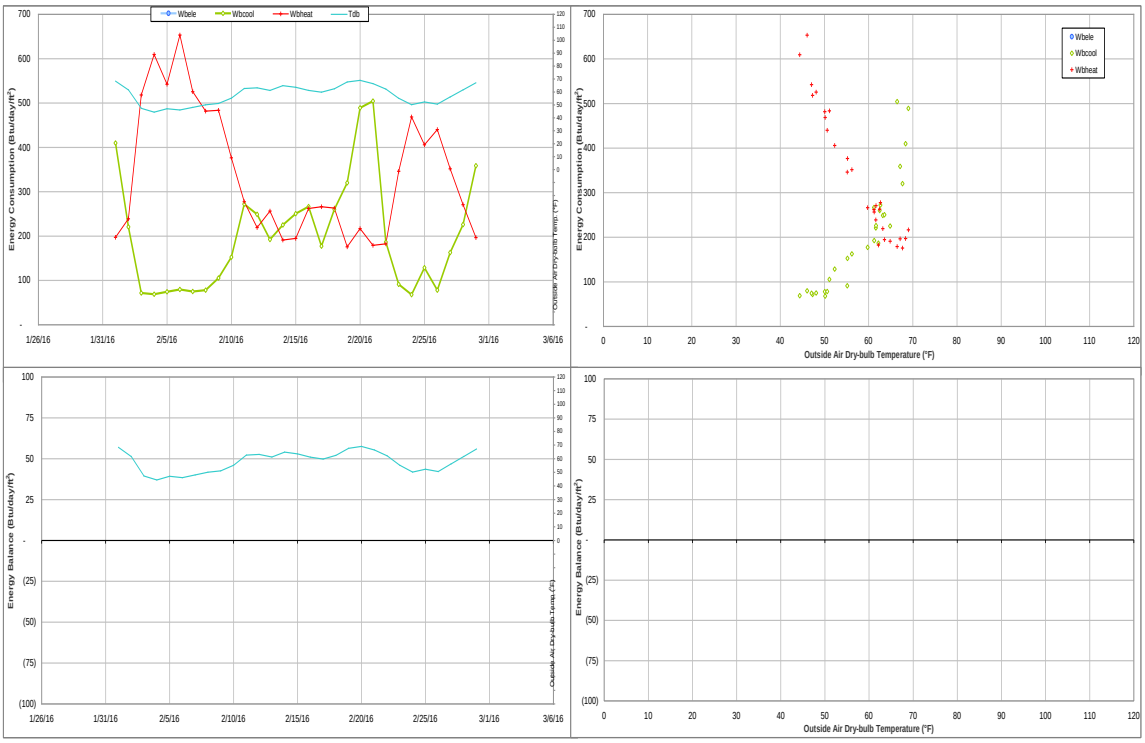


Figure IV-128 Veterinary Anatomic Pathology TAMU BLDG # 1184 Energy Balance Plot during February 2016

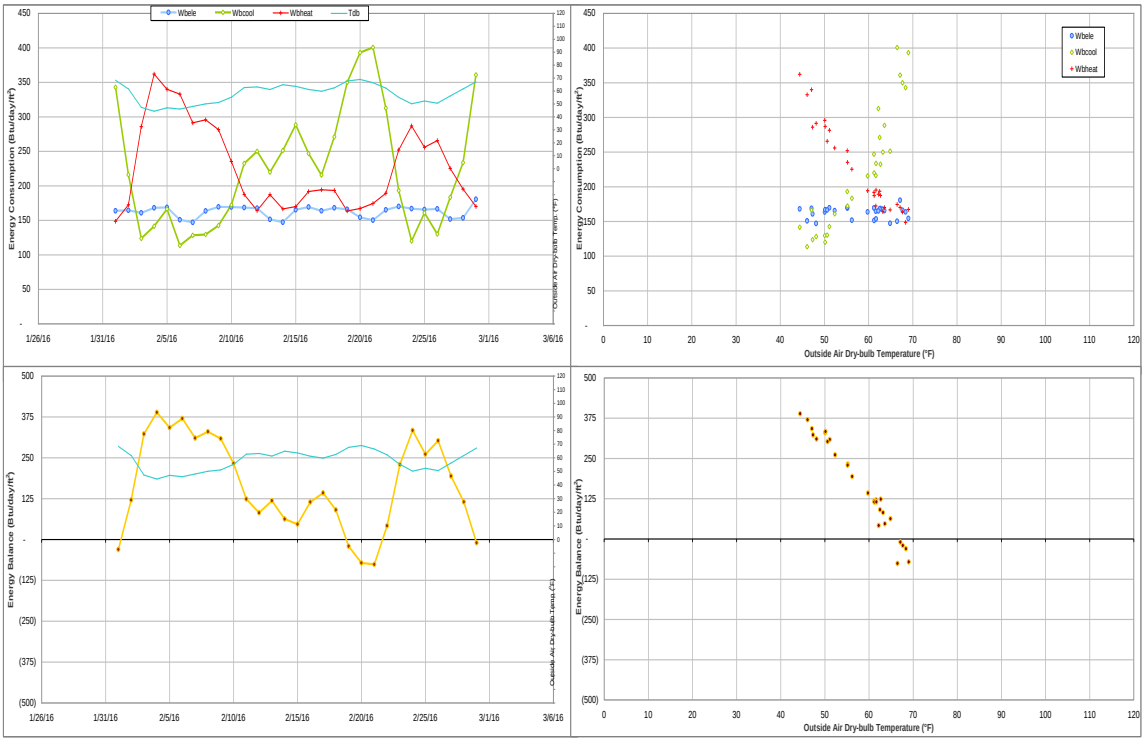


Figure IV-129 Veterinary Large Animal Hospital TAMU BLDG # 1194 Energy Balance Plot during February 2016

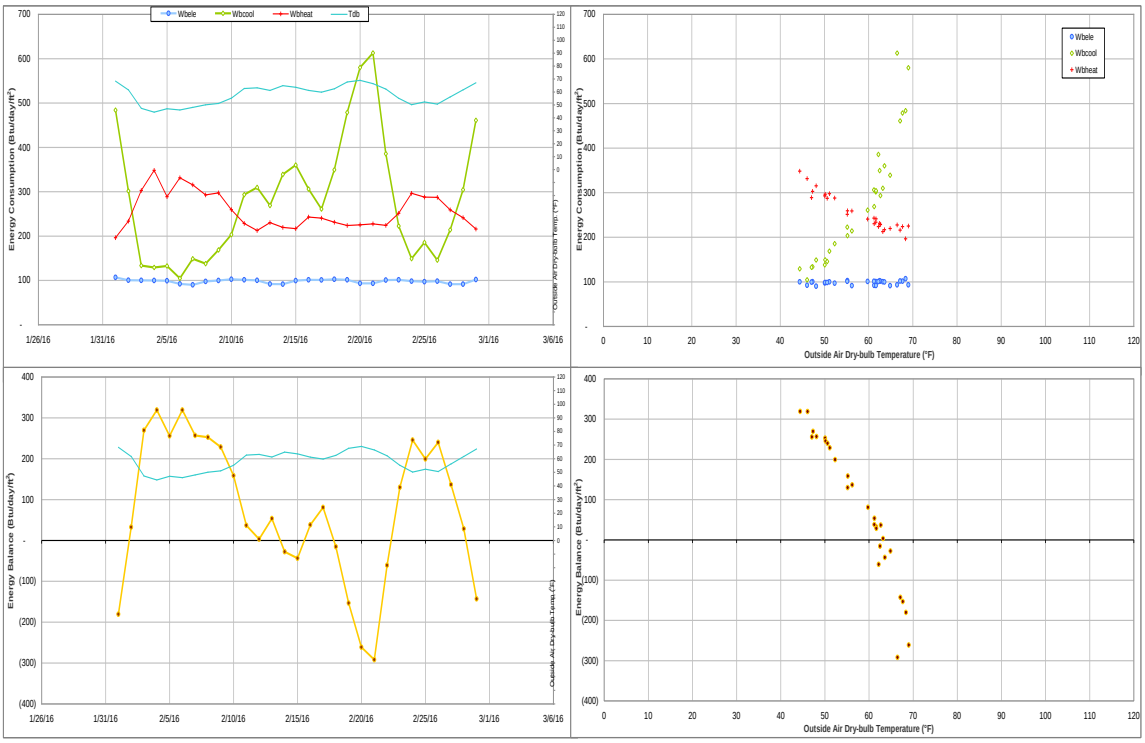


Figure IV-130 Veterinary Research Building TAMU BLDG # 1197 Energy Balance Plot during February 2016

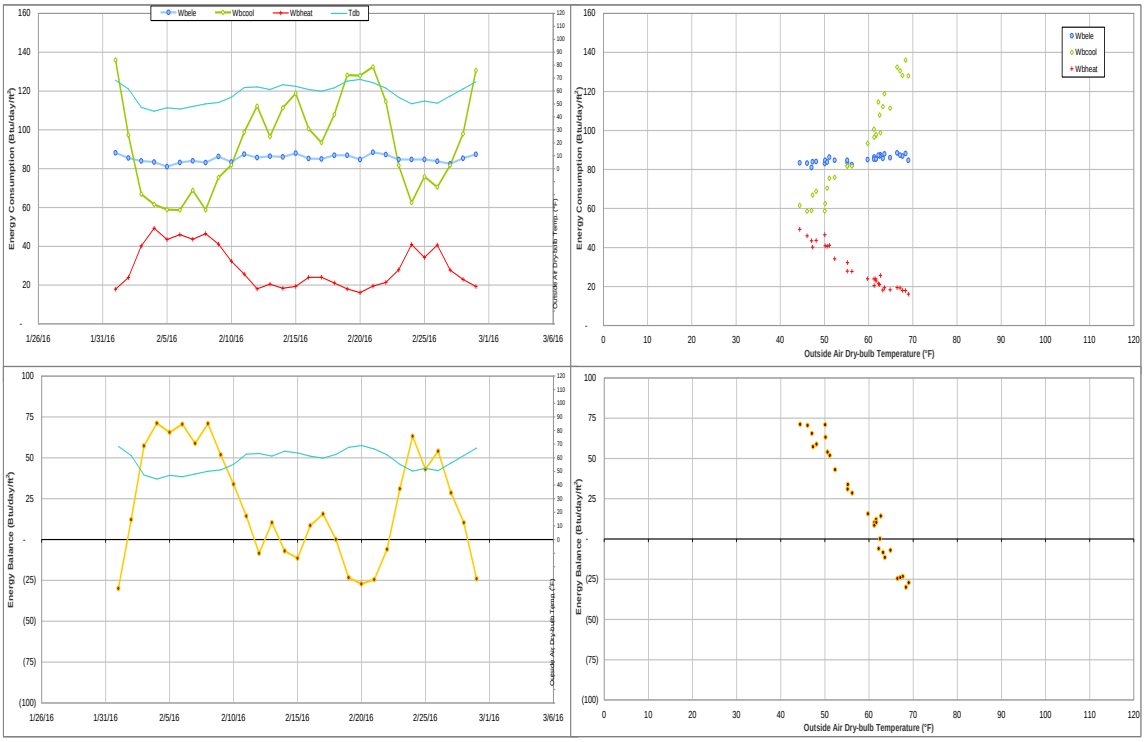


Figure IV-131 Hullabaloo Residence Hall TAMU BLDG # 1416 Energy Balance Plot during February 2016

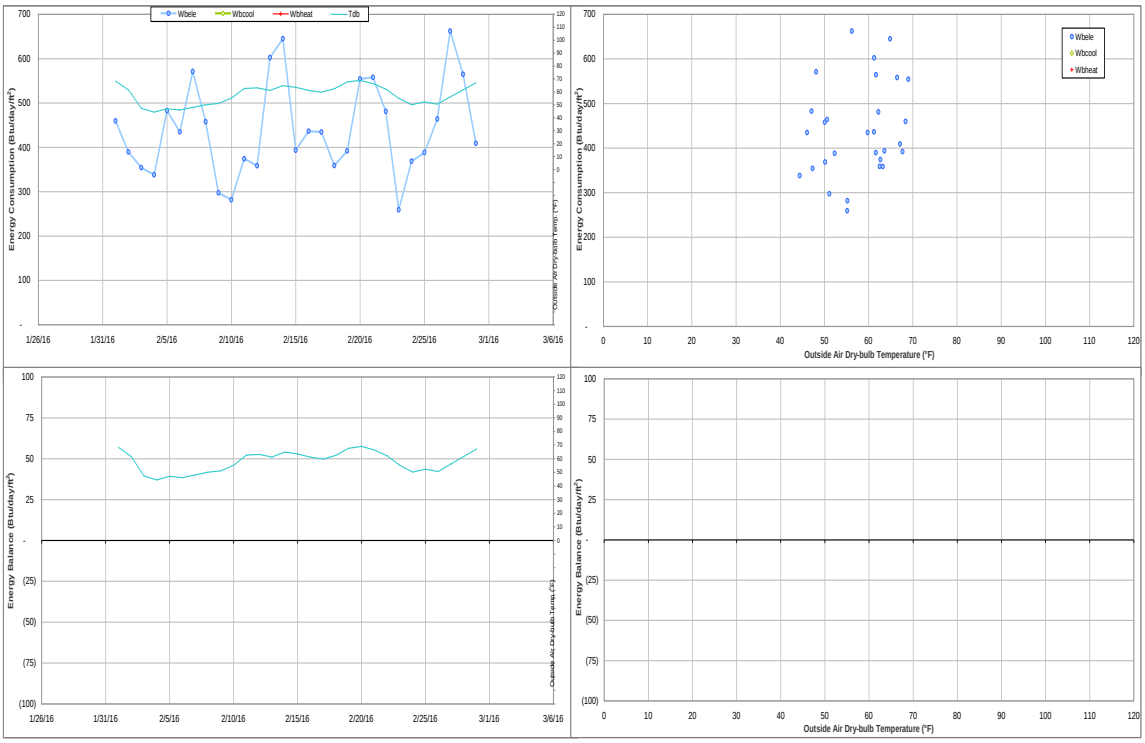


Figure IV-132 University Apartments - Laundry at the Gardens TAMU BLDG # 1450 Energy Balance Plot during February 2016

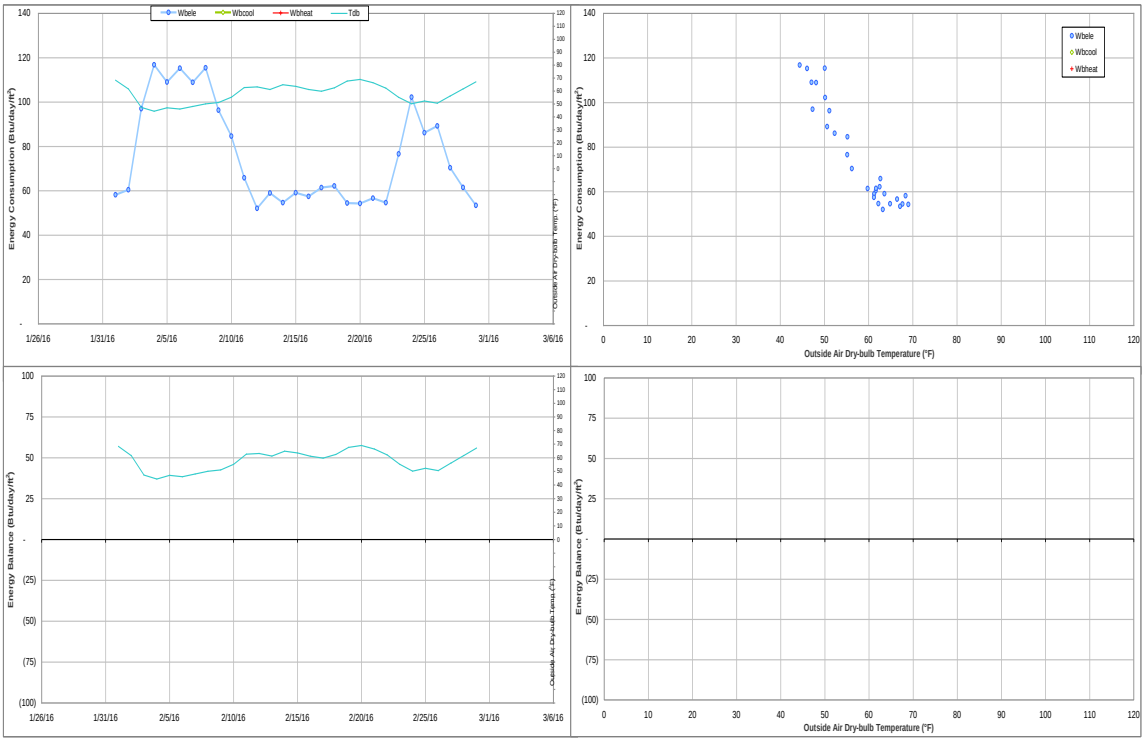


Figure IV-133 University Apartments - The Gardens J TAMU BLDG # 1451 Energy Balance Plot during February 2016

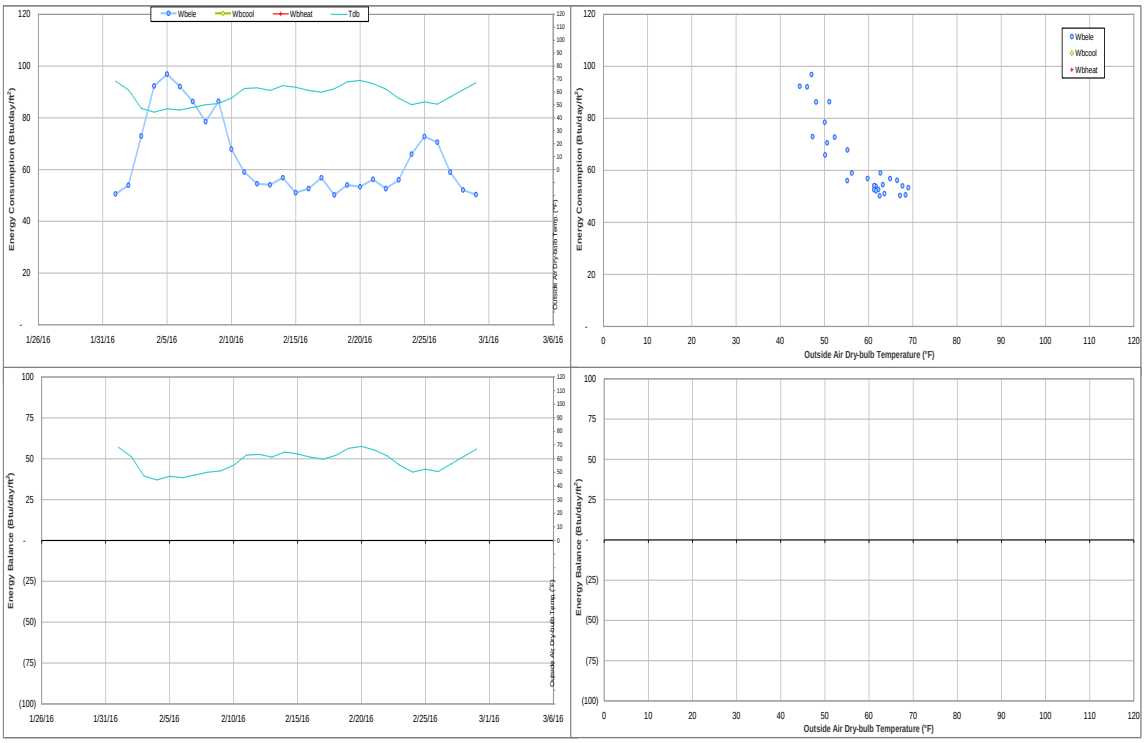


Figure IV-134 University Apartments - The Gardens L TAMU BLDG # 1453 Energy Balance Plot during February 2016

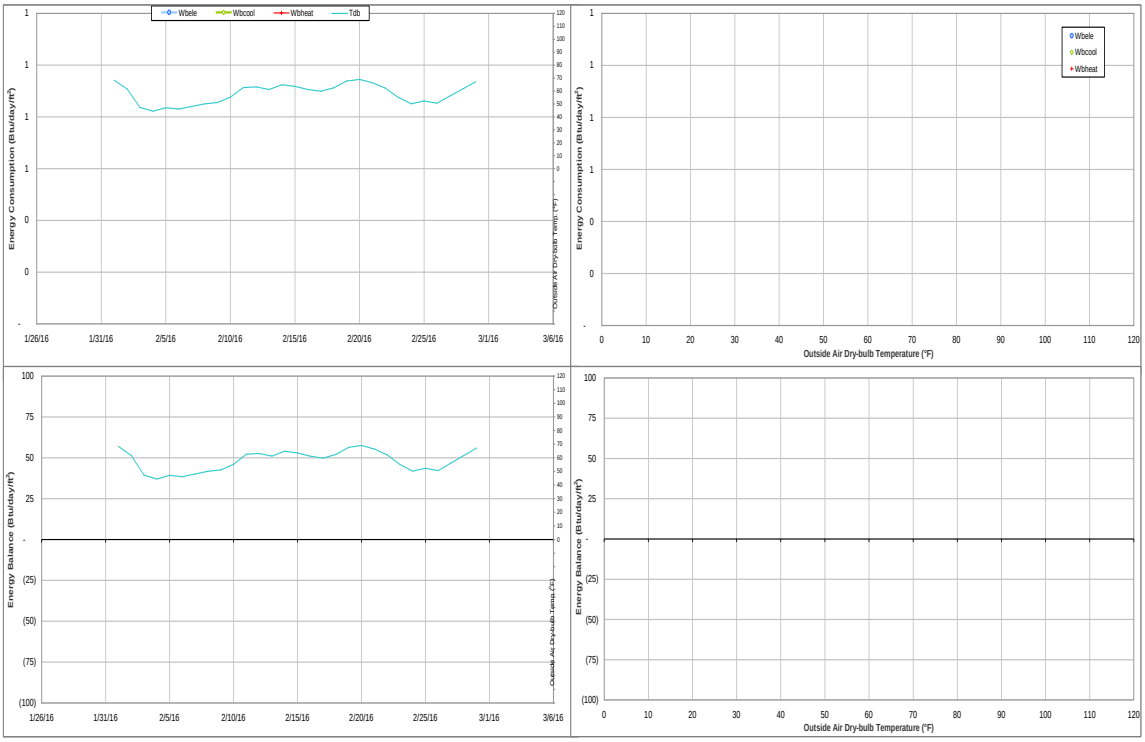


Figure IV-135 University Apartments - The Gardens F TAMU BLDG # 1454 Energy Balance Plot during February 2016

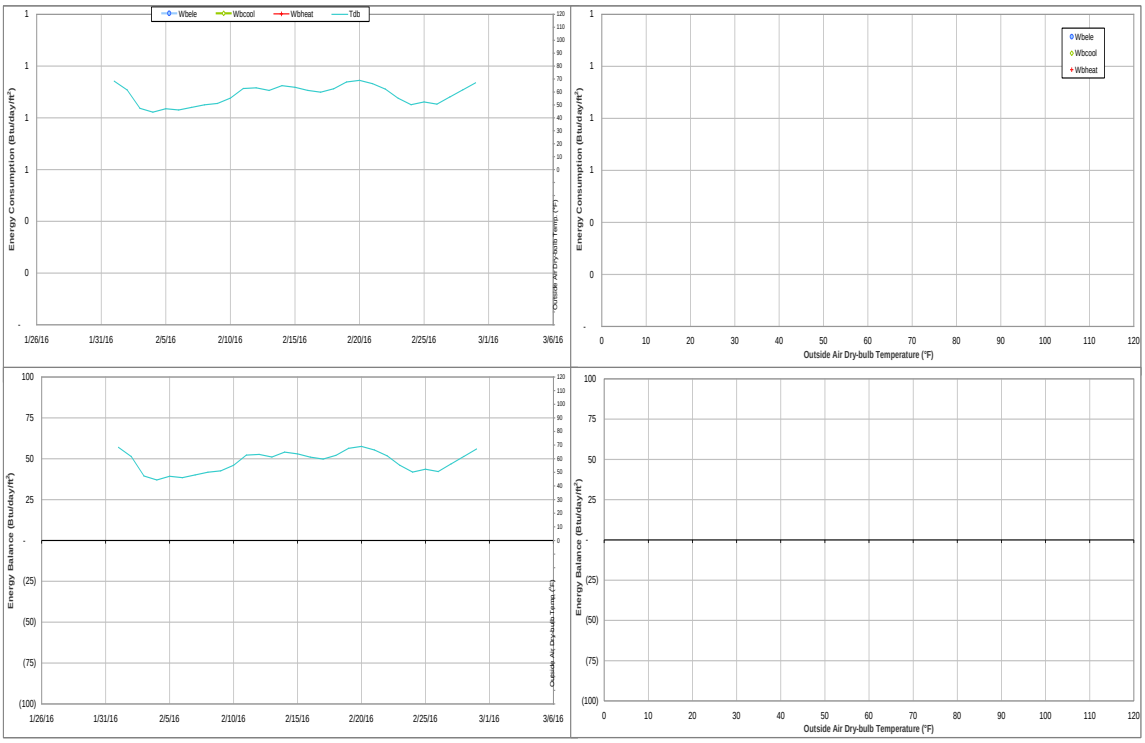


Figure IV-136 University Apartments - The Gardens G TAMU BLDG # 1455 Energy Balance Plot during February 2016

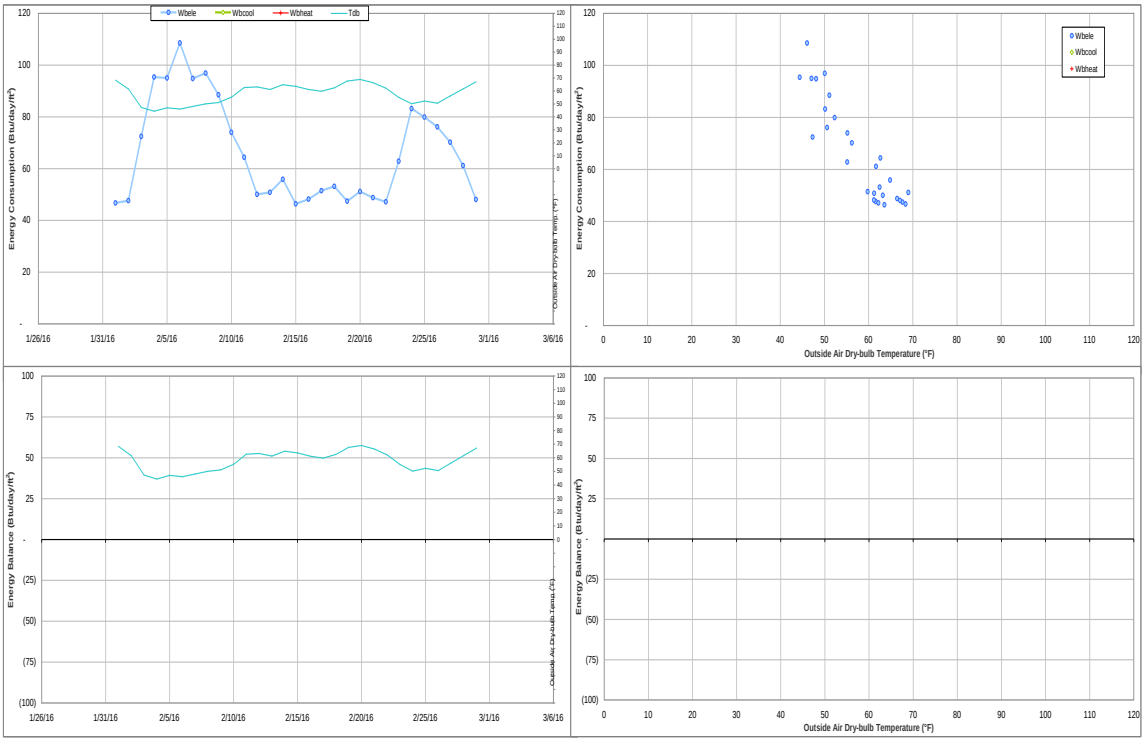


Figure IV-137 University Apartments - The Gardens H TAMU BLDG # 1456 Energy Balance Plot during February 2016

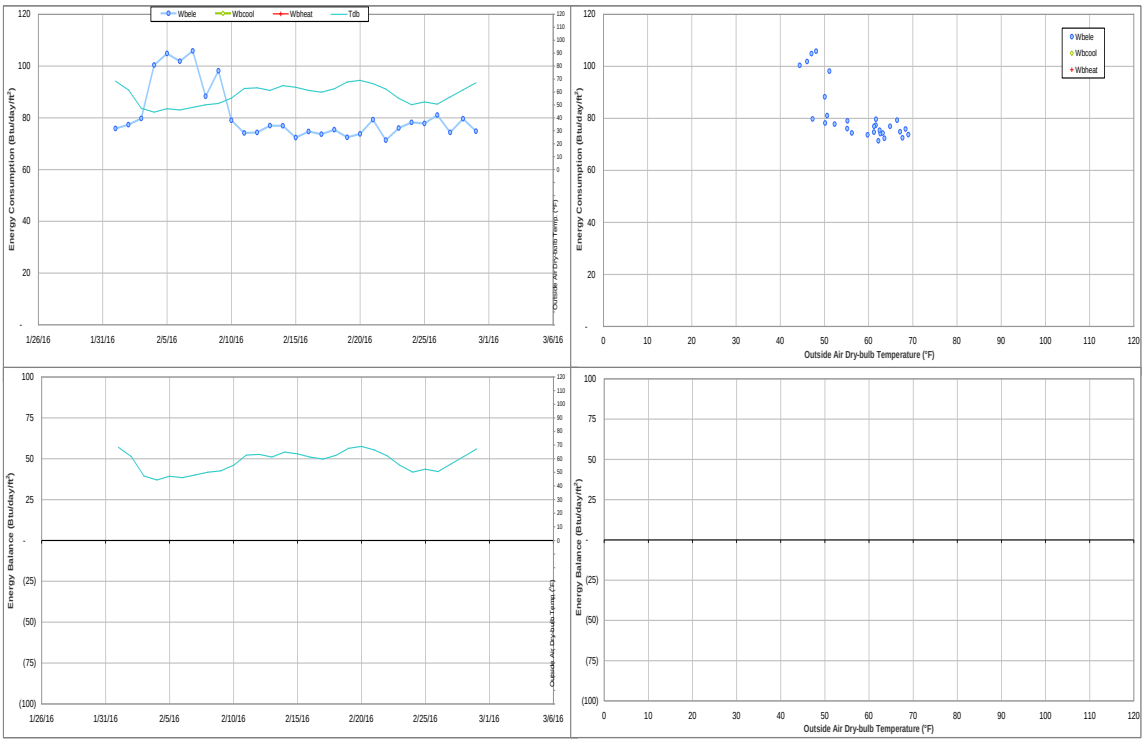


Figure IV-138 University Apartments - The Gardens M TAMU BLDG # 1457 Energy Balance Plot during February 2016

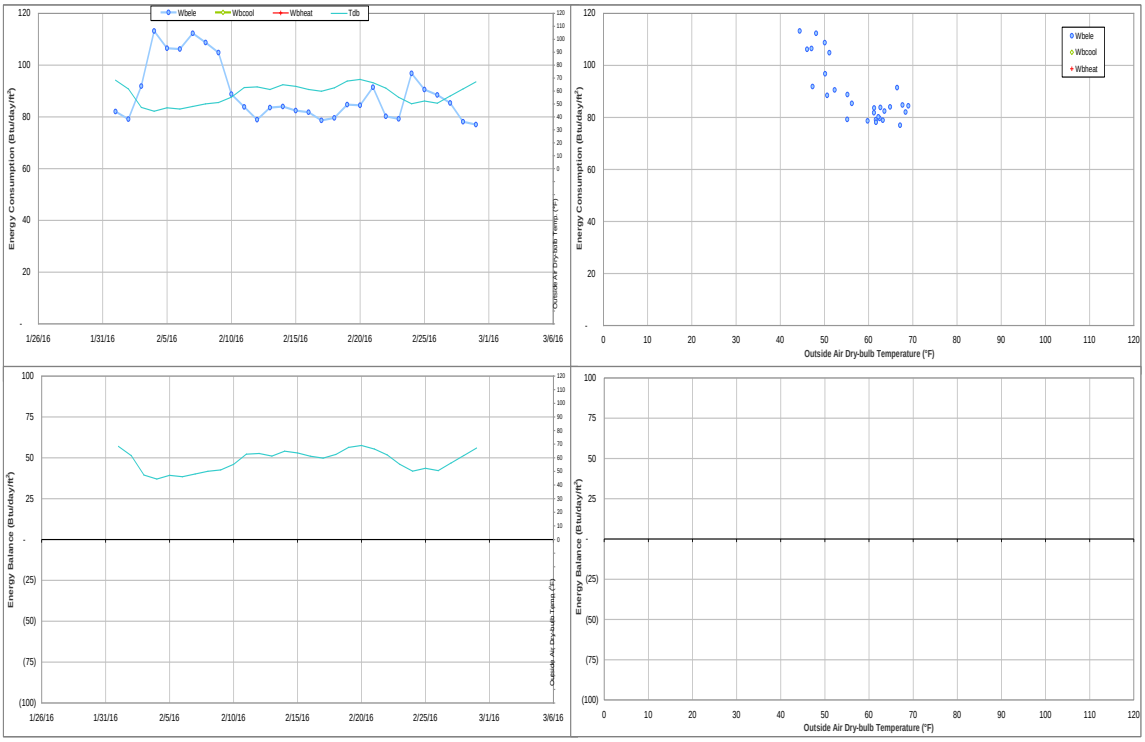


Figure IV-139 University Apartments - The Gardens N TAMU BLDG # 1458 Energy Balance Plot during February 2016

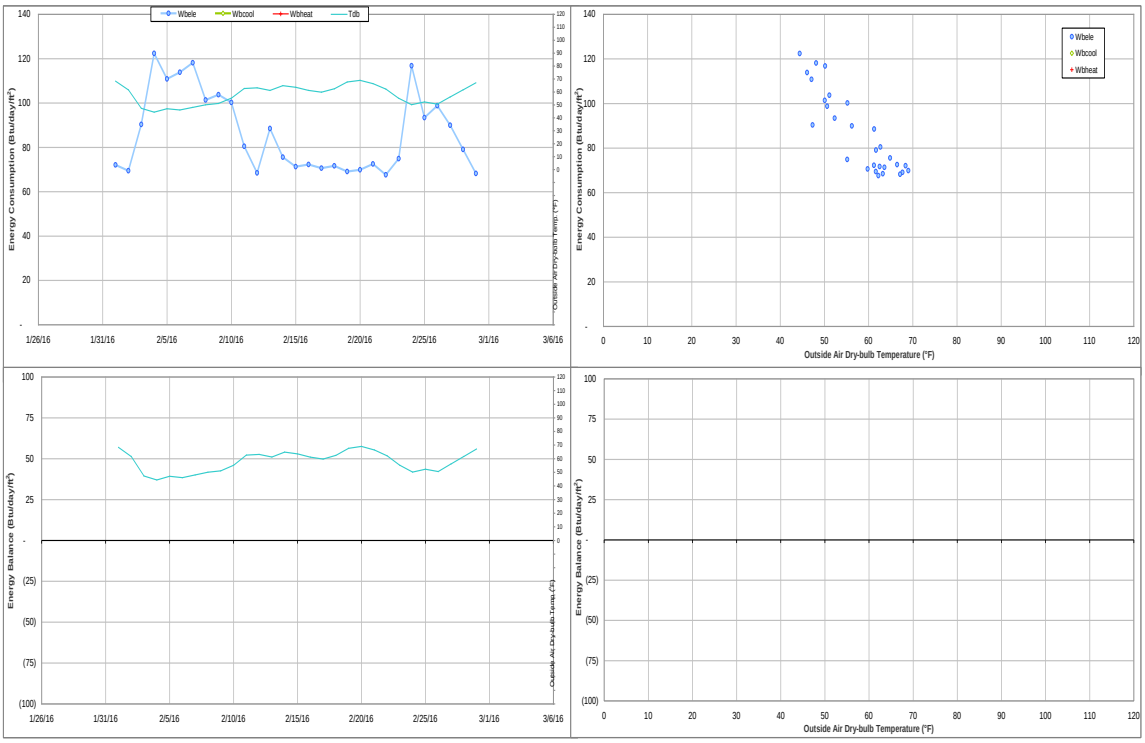


Figure IV-140 University Apartments - The Gardens P TAMU BLDG # 1459 Energy Balance Plot during February 2016

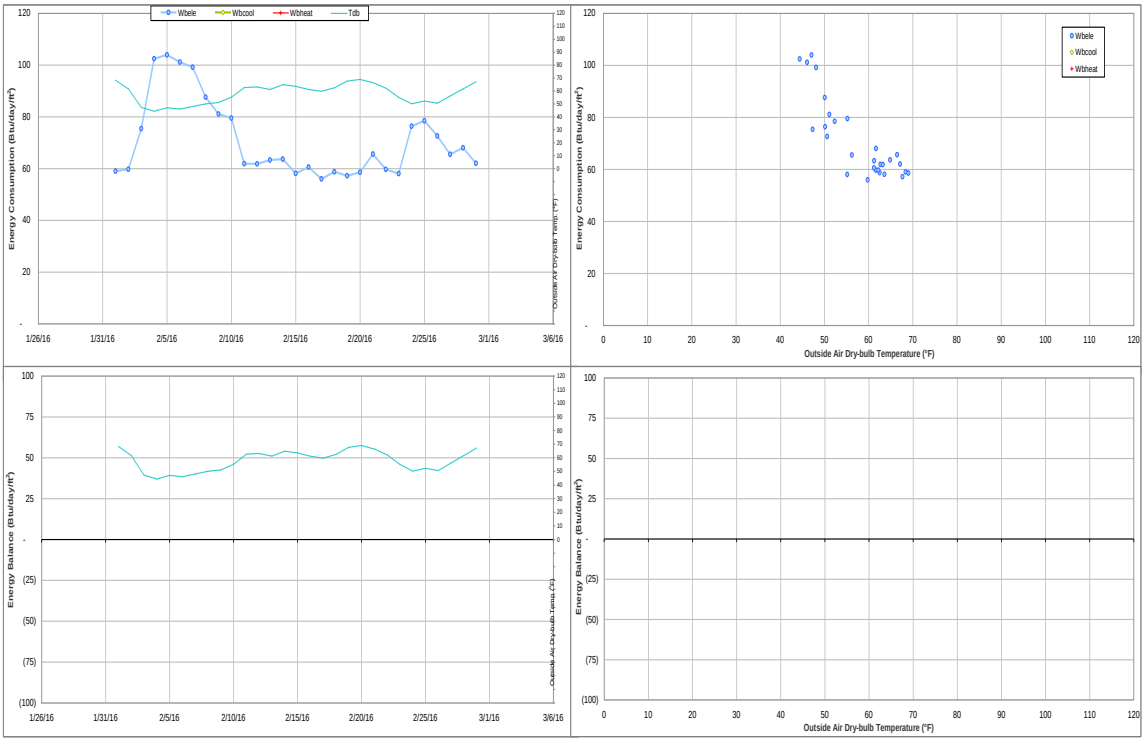


Figure IV-141 University Apartments - The Gardens Q TAMU BLDG # 1460 Energy Balance Plot during February 2016

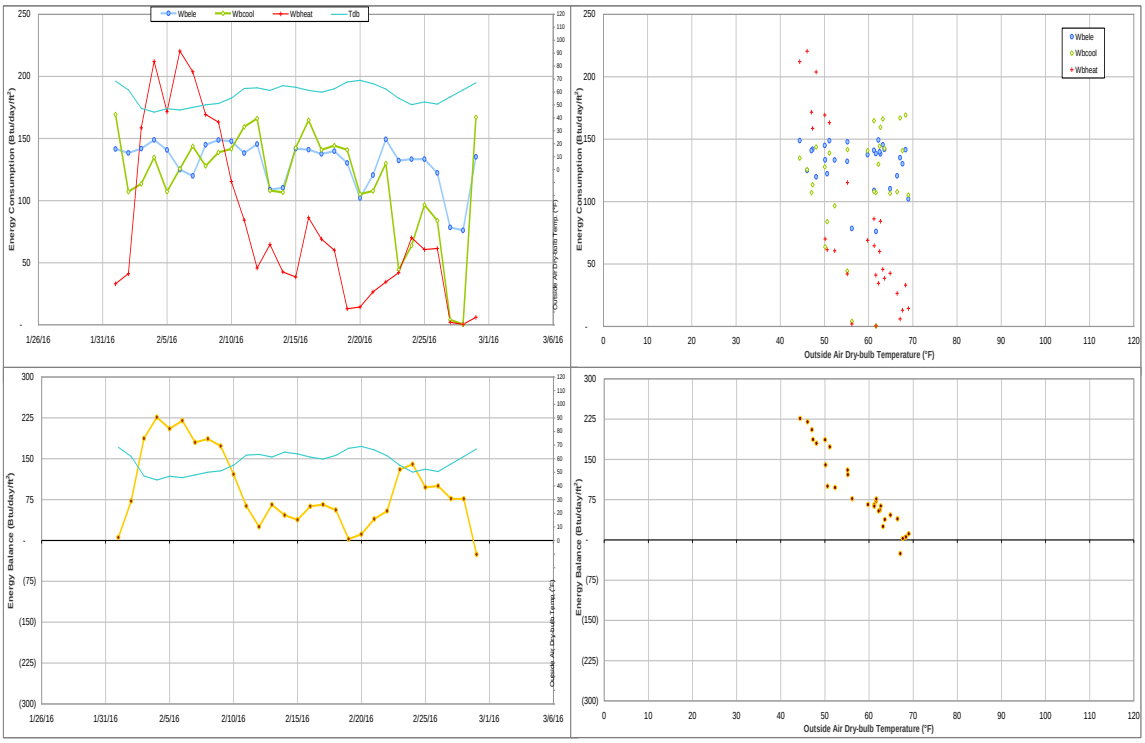


Figure IV-142 Utilities & Energy Services Business Office TAMU BLDG # 1497 Energy Balance Plot during February 2016

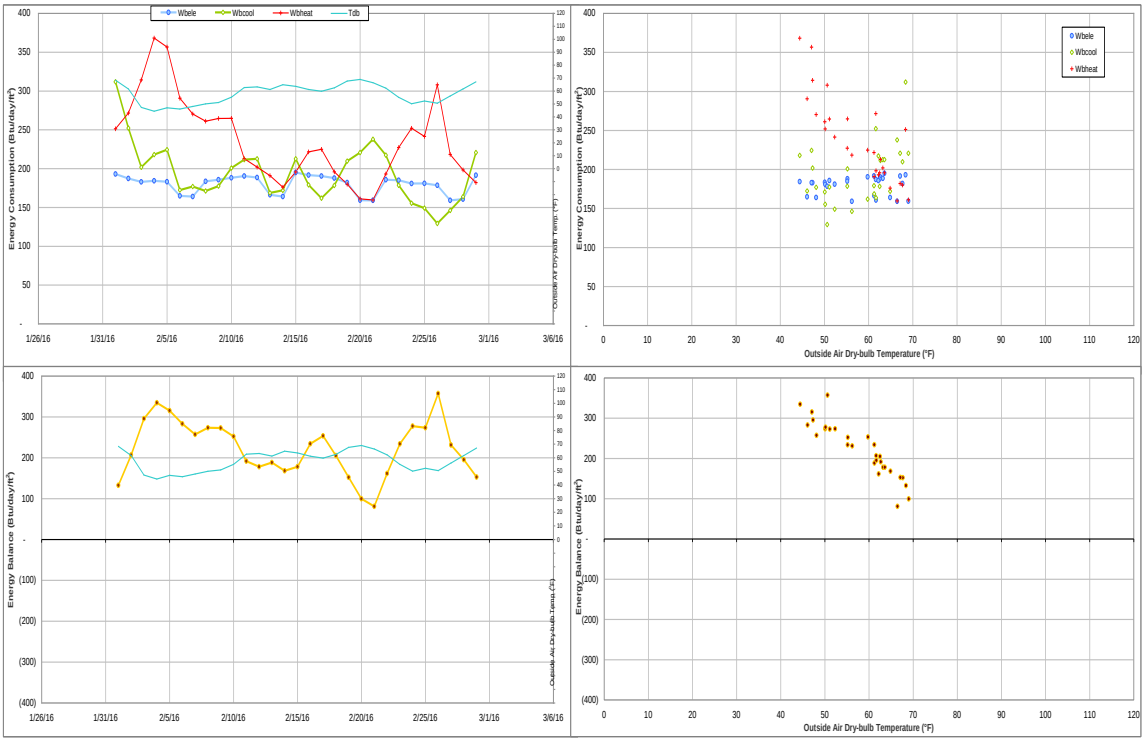


Figure IV-143 Kleberg Center TAMU BLDG # 1501 Energy Balance Plot during February 2016

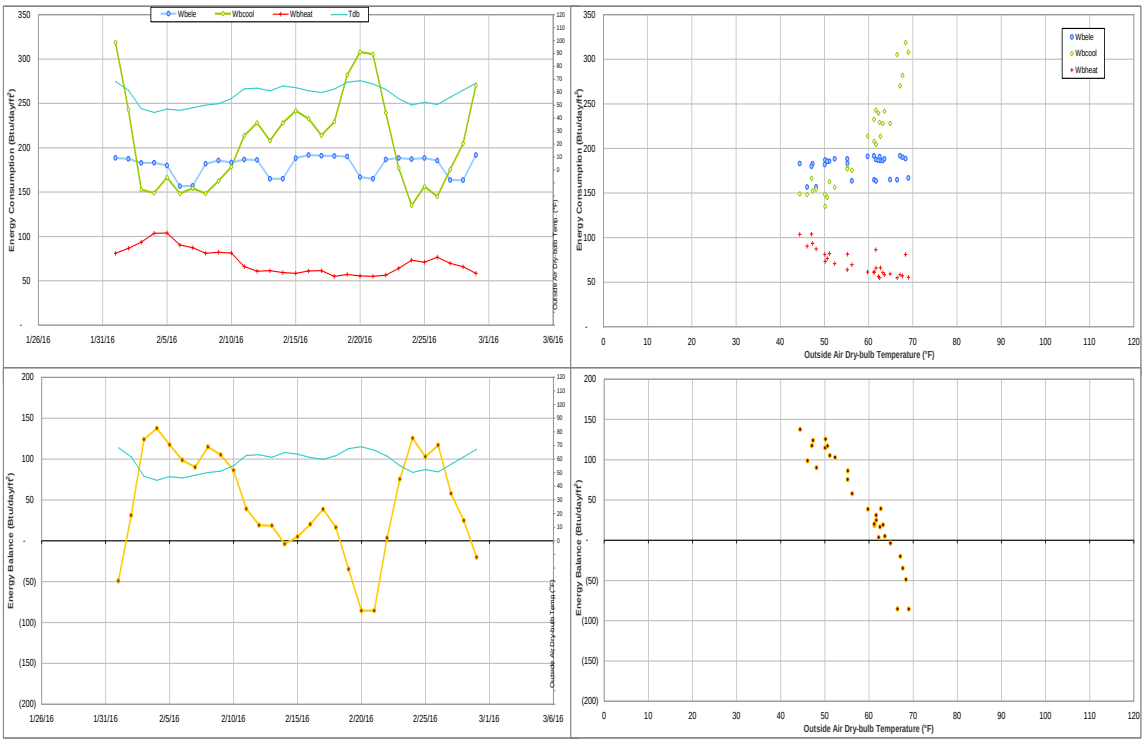


Figure IV-144 Heep Center TAMU BLDG # 1502 Energy Balance Plot during February 2016

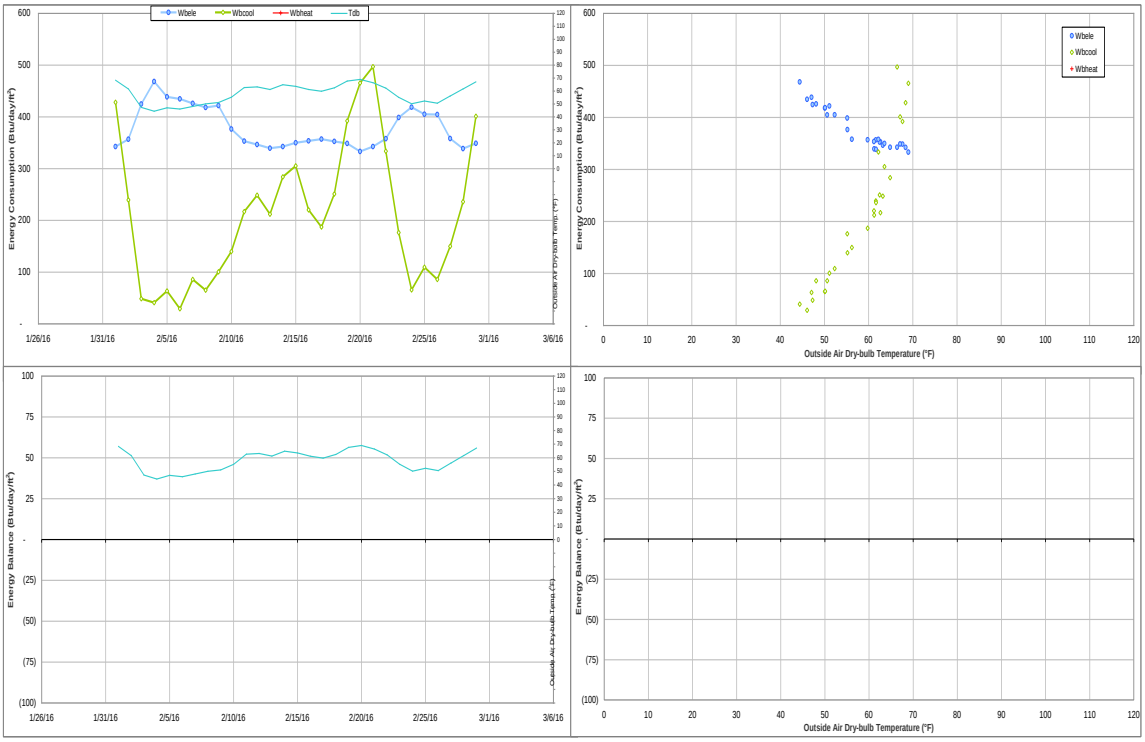


Figure IV-145 Cater-Mattil Hall TAMU BLDG # 1503 Energy Balance Plot during February 2016

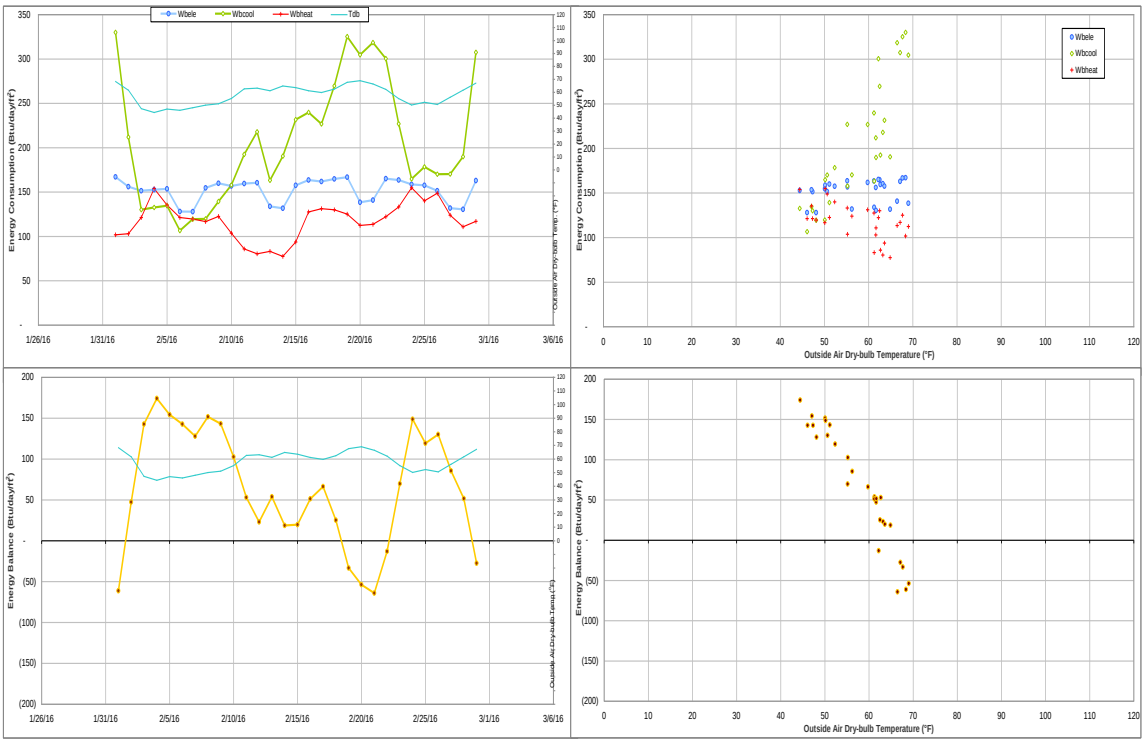


Figure IV-146 Reynolds Medical Sciences Building TAMU BLDG # 1504 Energy Balance Plot during February 2016

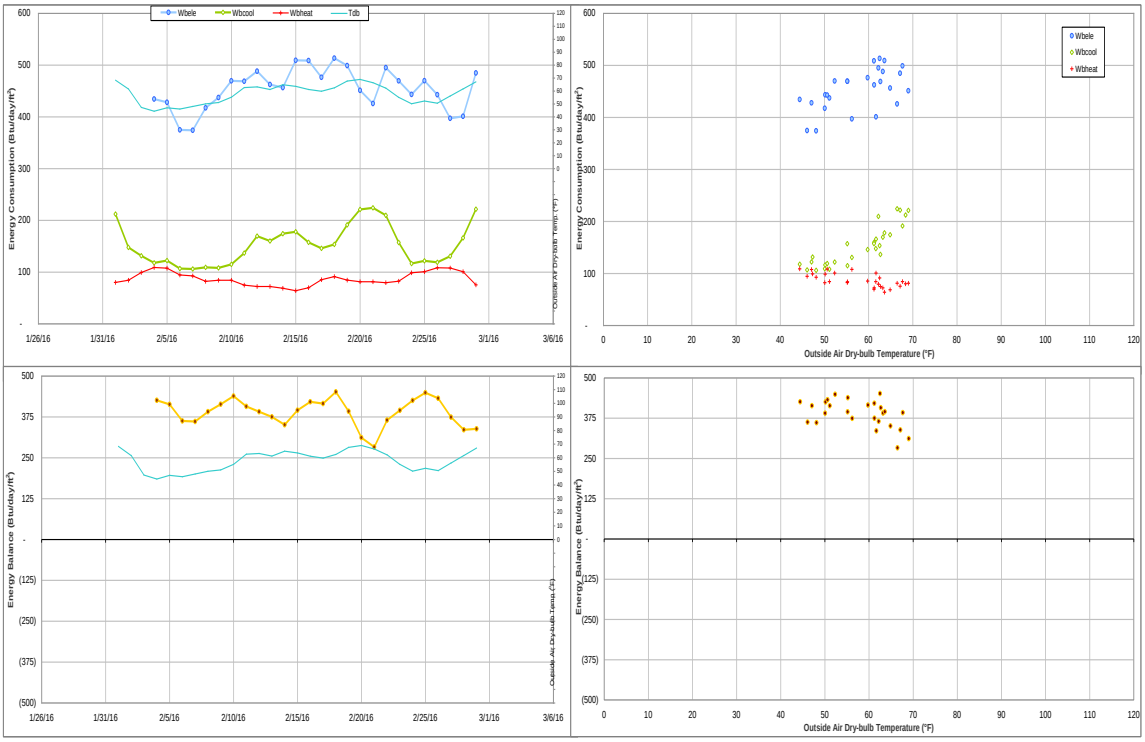


Figure IV-147 Rosenthal Meat Science & Technology Center TAMU BLDG # 1505 Energy Balance Plot during February 2016

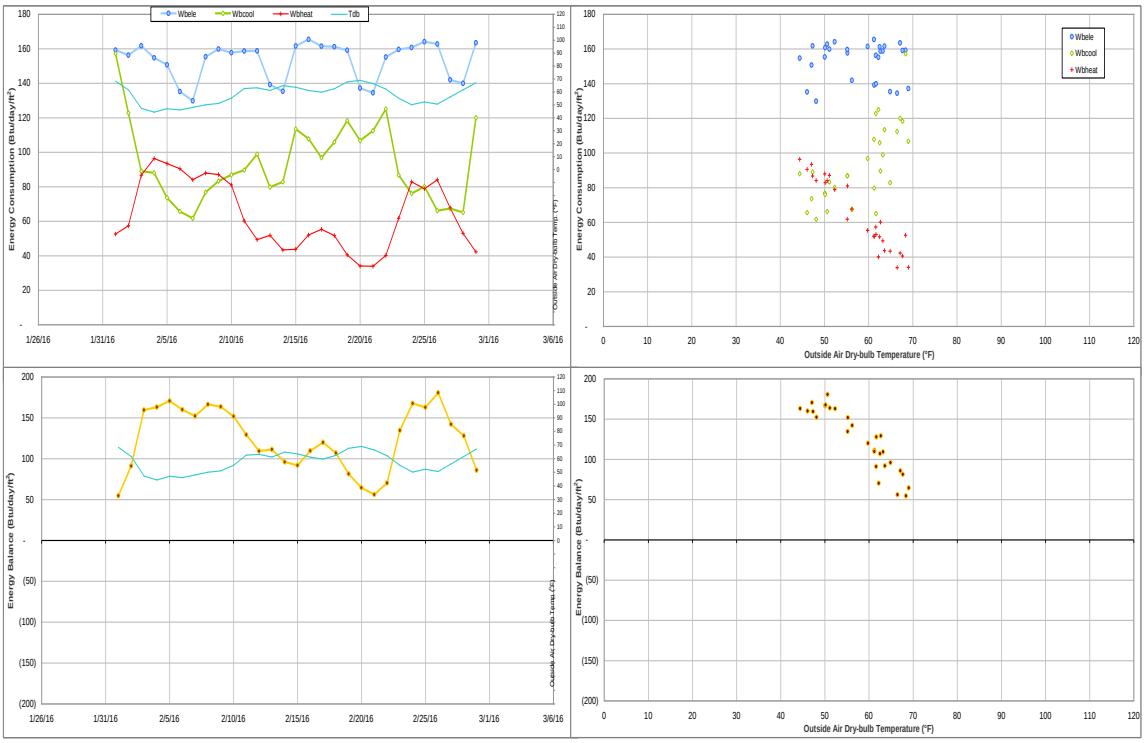


Figure IV-148 Horticulture-Forest Science Building TAMU BLDG # 1506 Energy Balance Plot during February 2016

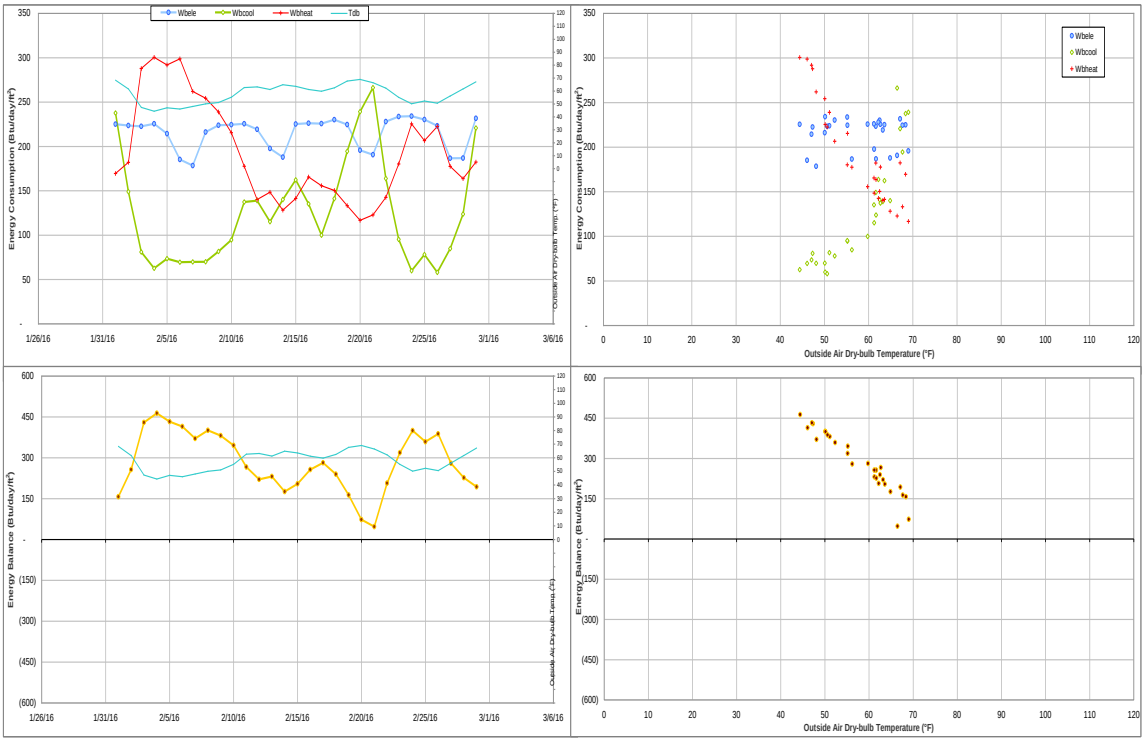


Figure IV-149 Biochemistry-Biophysics Building TAMU BLDG # 1507 Energy Balance Plot during February 2016

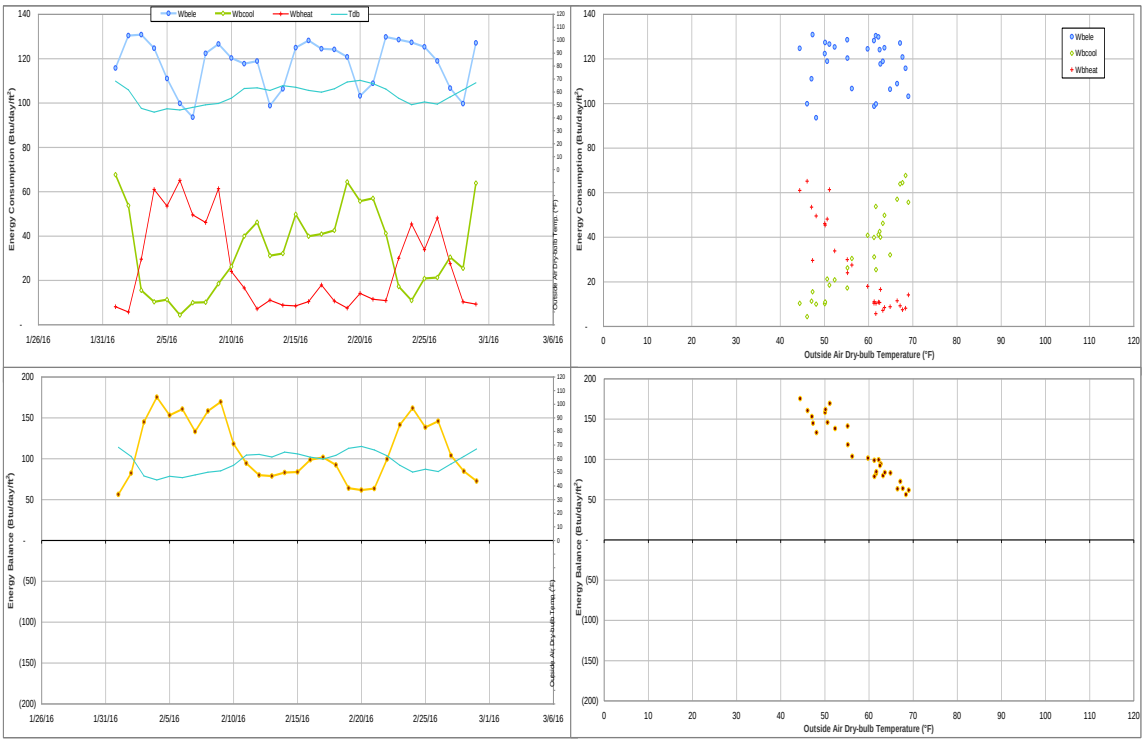


Figure IV-150 Price Hobgood Ag. Engineering Research Lab TAMU BLDG # 1508 Energy Balance Plot during February 2016

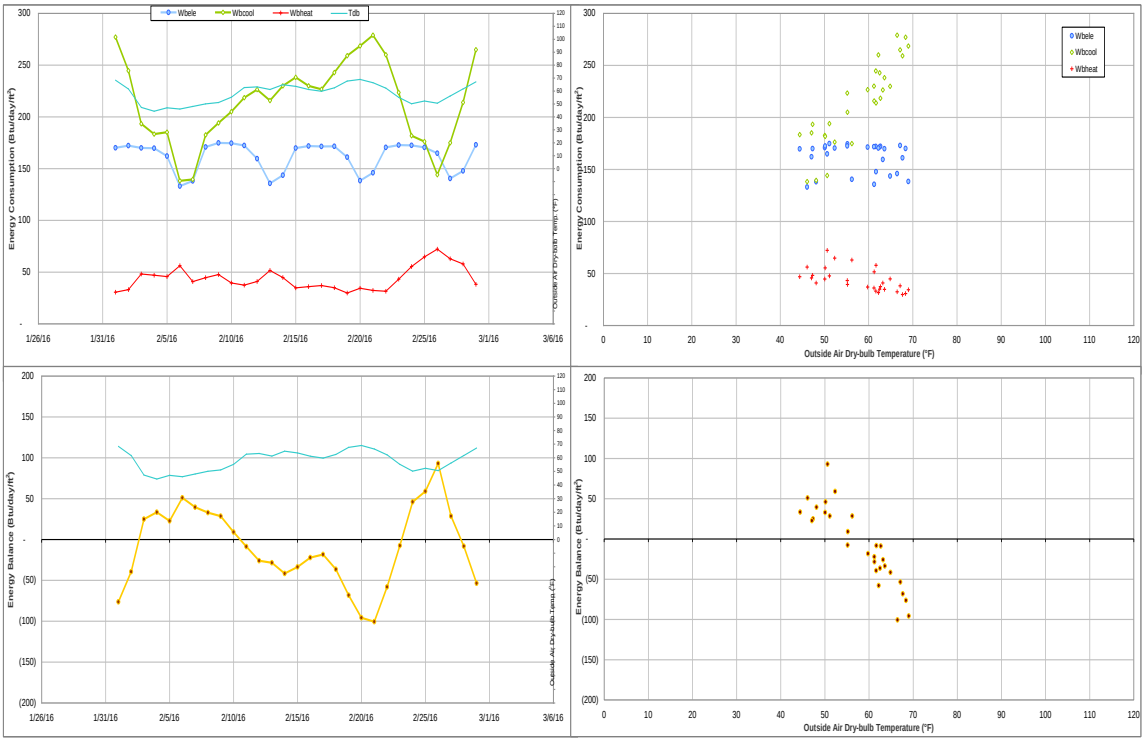


Figure IV-151 Medical Sciences Library TAMU BLDG # 1509 Energy Balance Plot during February 2016

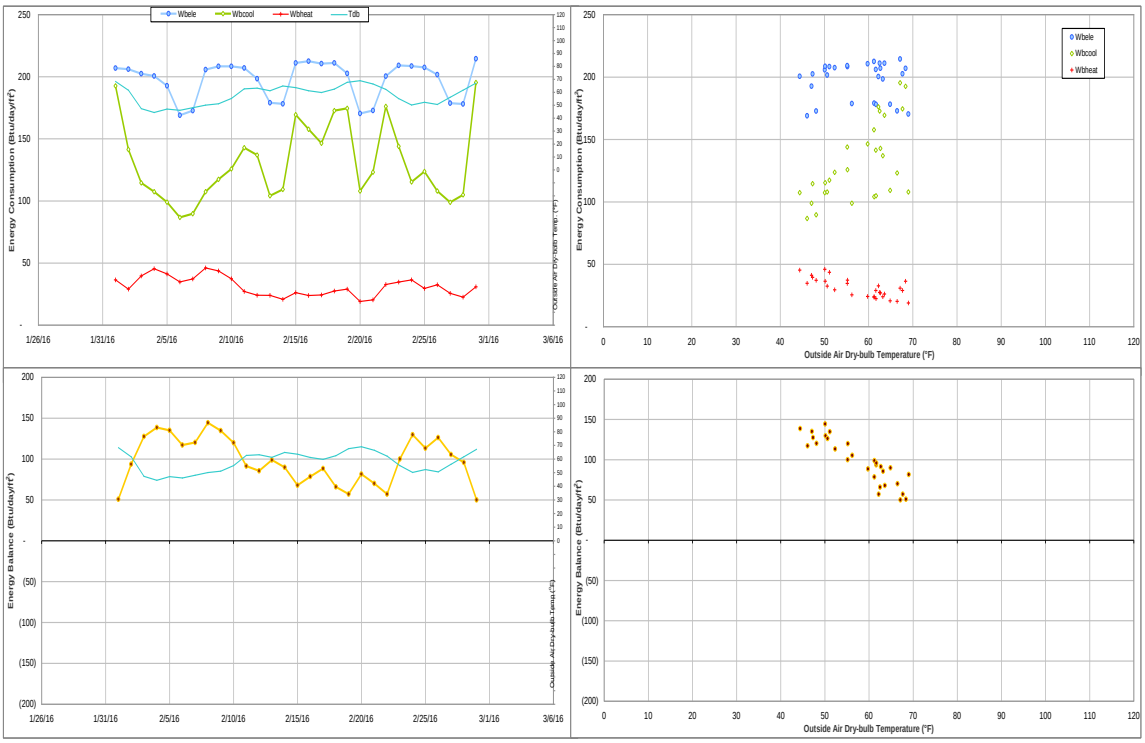


Figure IV-152 Wehner Building TAMU BLDG # 1510 Energy Balance Plot during February 2016

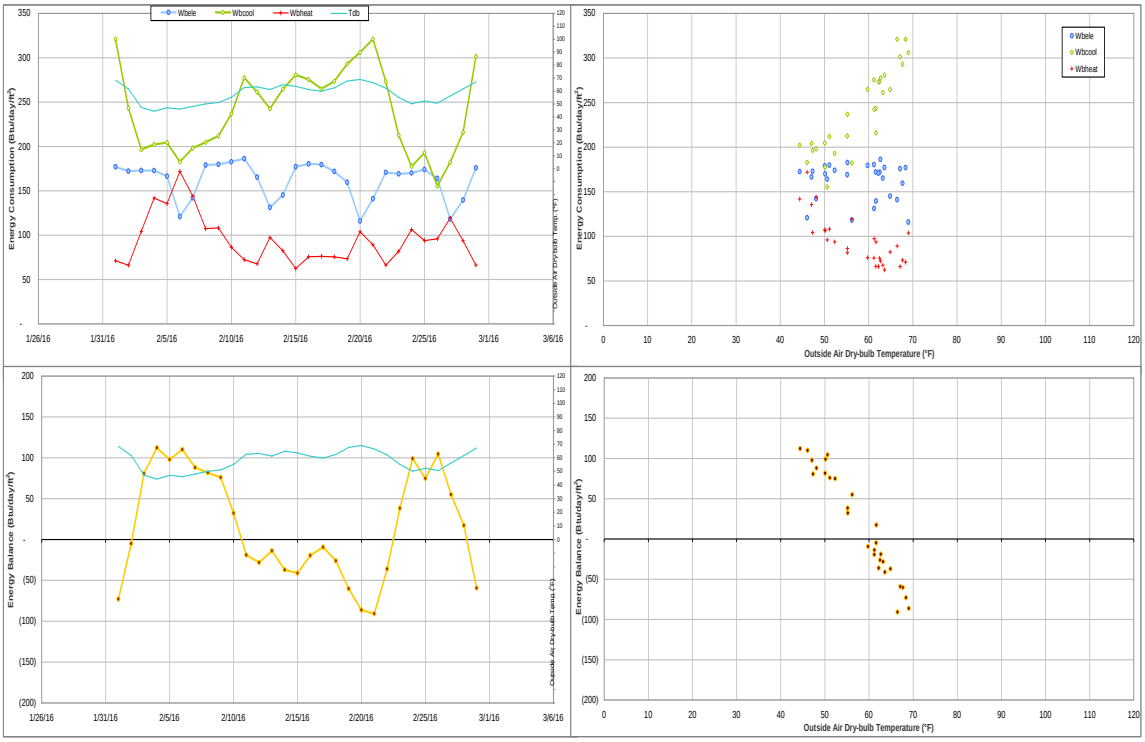


Figure IV-153 West Campus Library Facility TAMU BLDG # 1511 Energy Balance Plot during February 2016

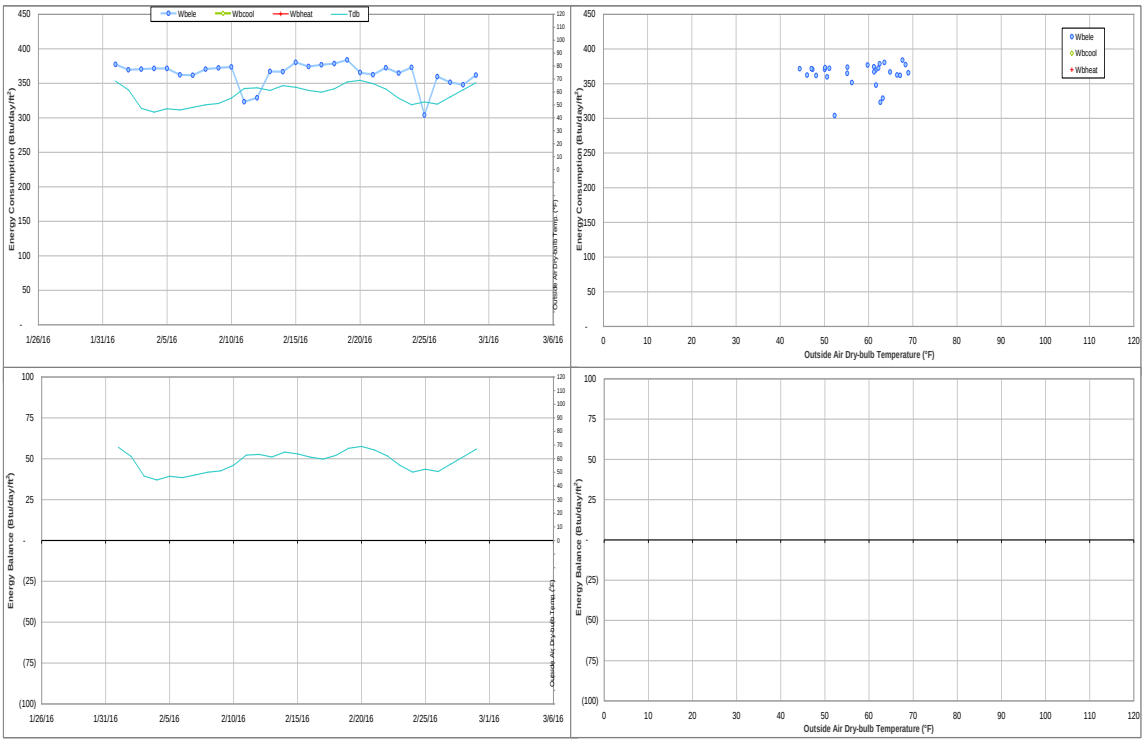


Figure IV-154 Southern Crop Improvement Greenhouse TAMU BLDG # 1512 Energy Balance Plot during February 2016

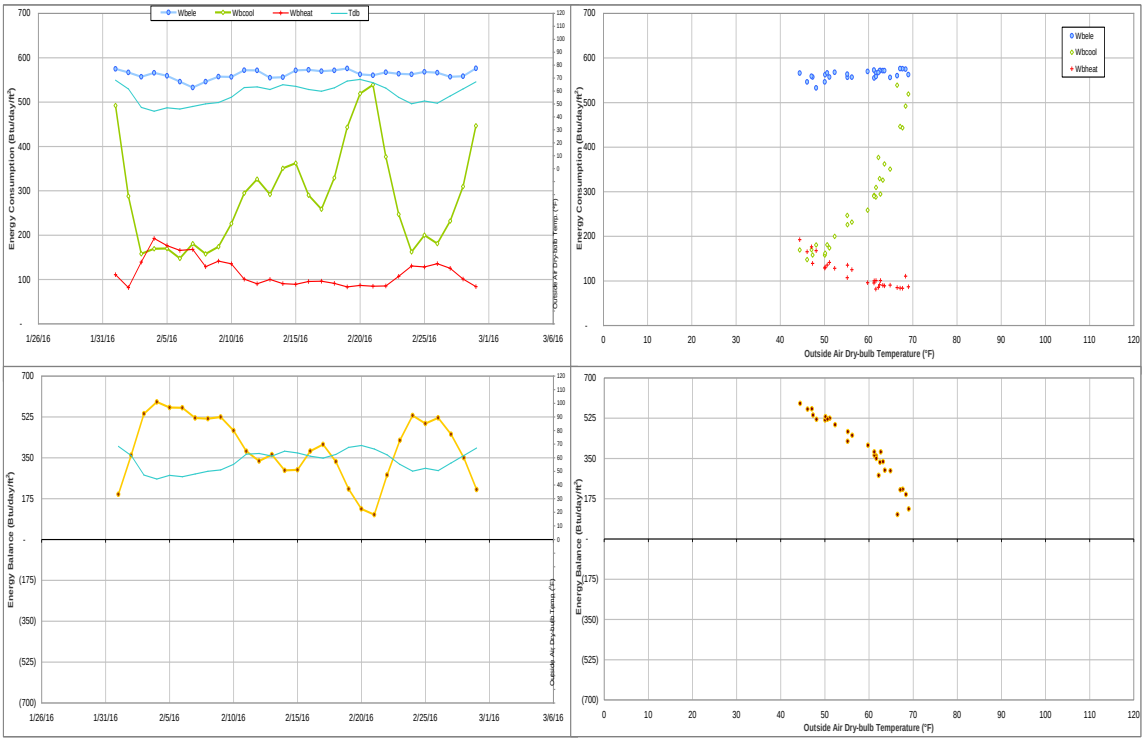


Figure IV-155 Borlaug Center for Southern Crop Improvement TAMU BLDG # 1513 Energy Balance Plot during February 2016

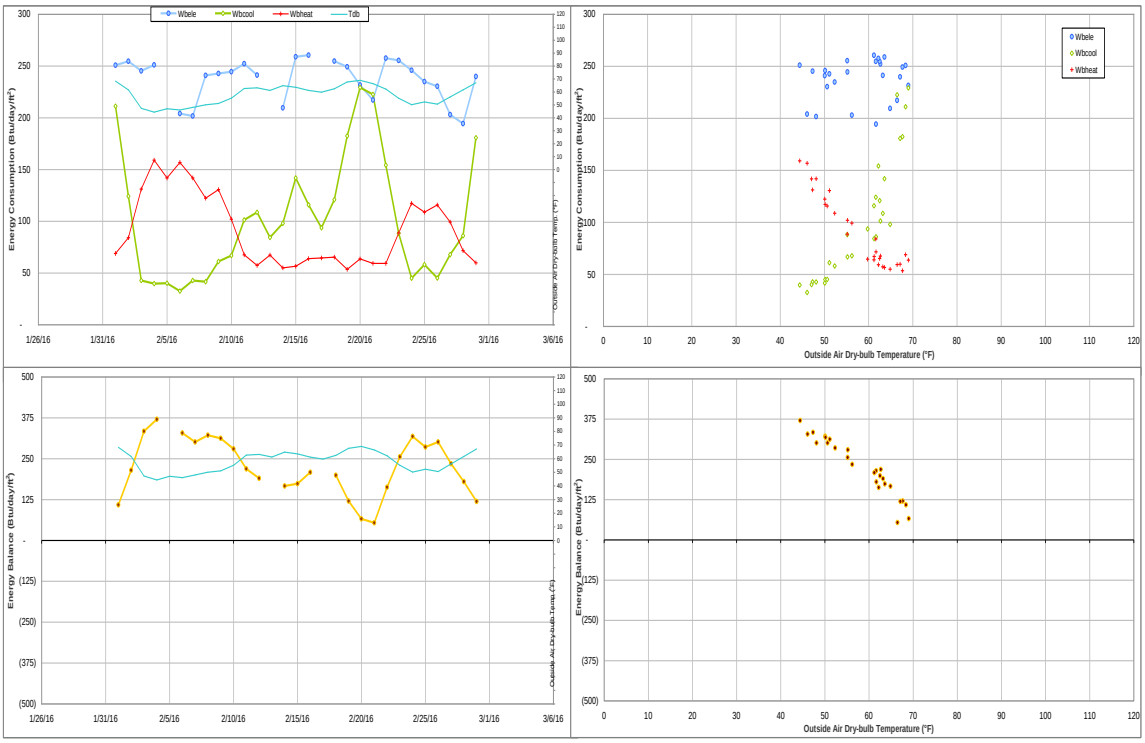


Figure IV-156 TX School of Rural Public Health TAMU BLDG # 1518 Energy Balance Plot during February 2016

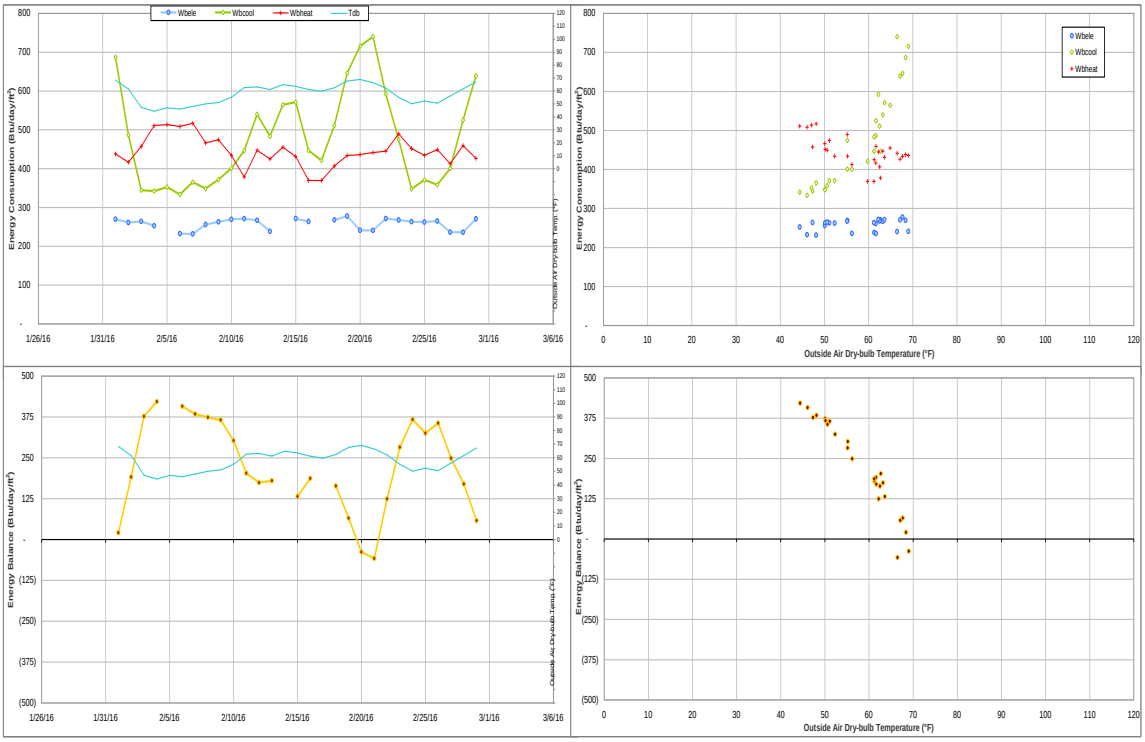


Figure IV-157 Nuclear Magnetic Resonance Facility TAMU BLDG # 1525 Energy Balance Plot during February 2016

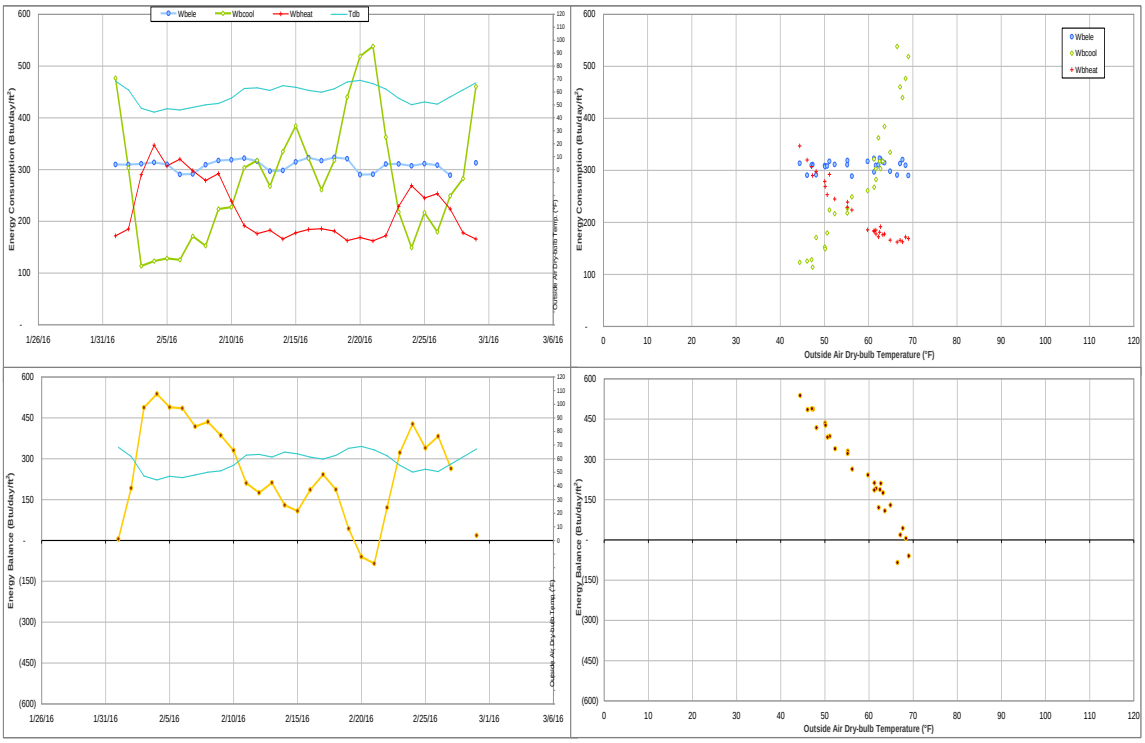


Figure IV-158 Interdisciplinary Life Sciences Building TAMU BLDG # 1530 Energy Balance Plot during February 2016

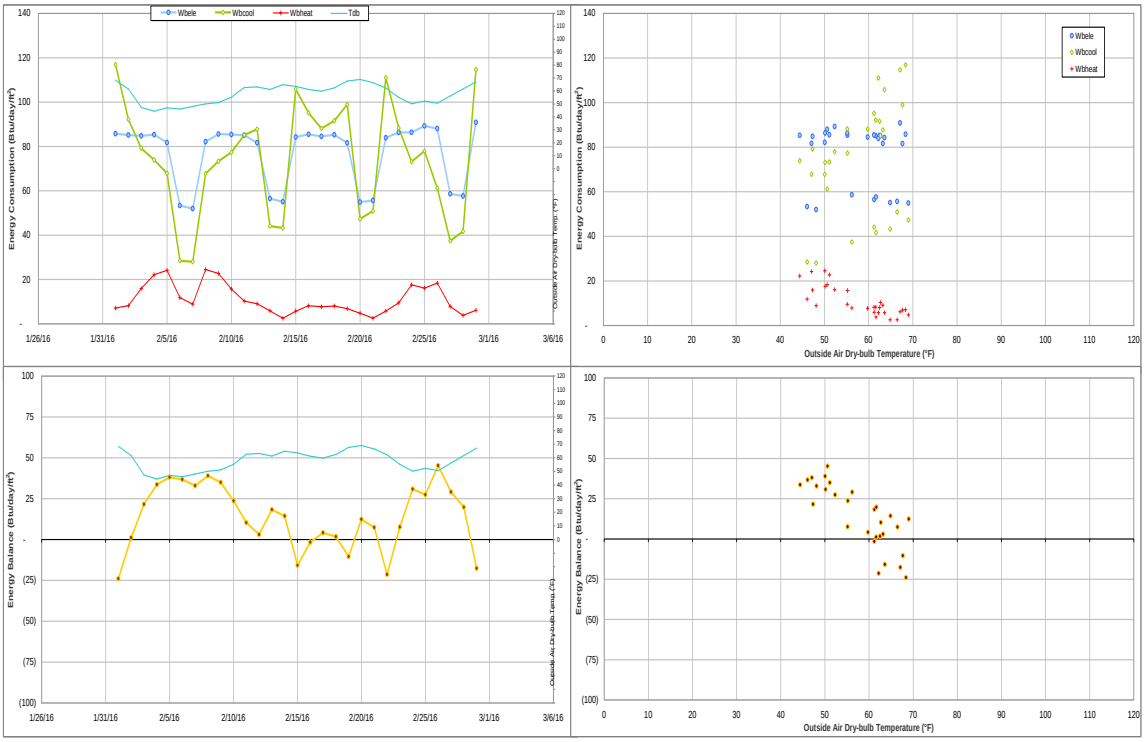


Figure IV-159 Agriculture and Life Sciences Building TAMU BLDG # 1535 Energy Balance Plot during February 2016

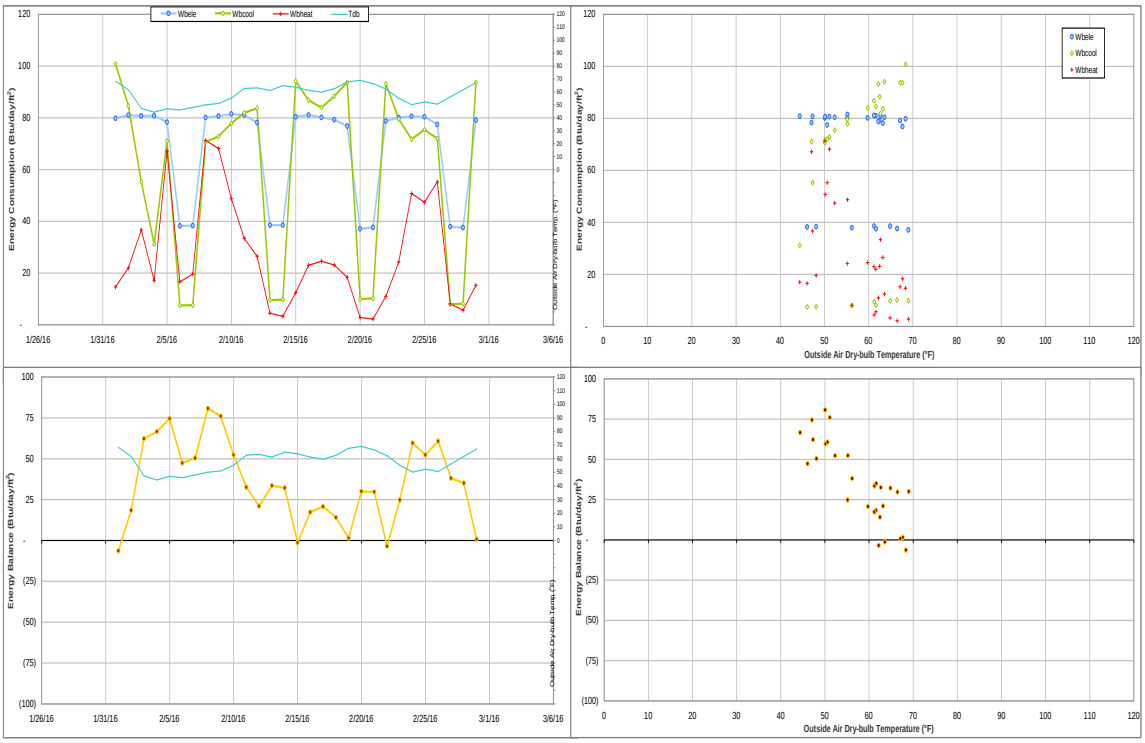


Figure IV-160 AgriLife Services Building TAMU BLDG # 1536 Energy Balance Plot during February 2016

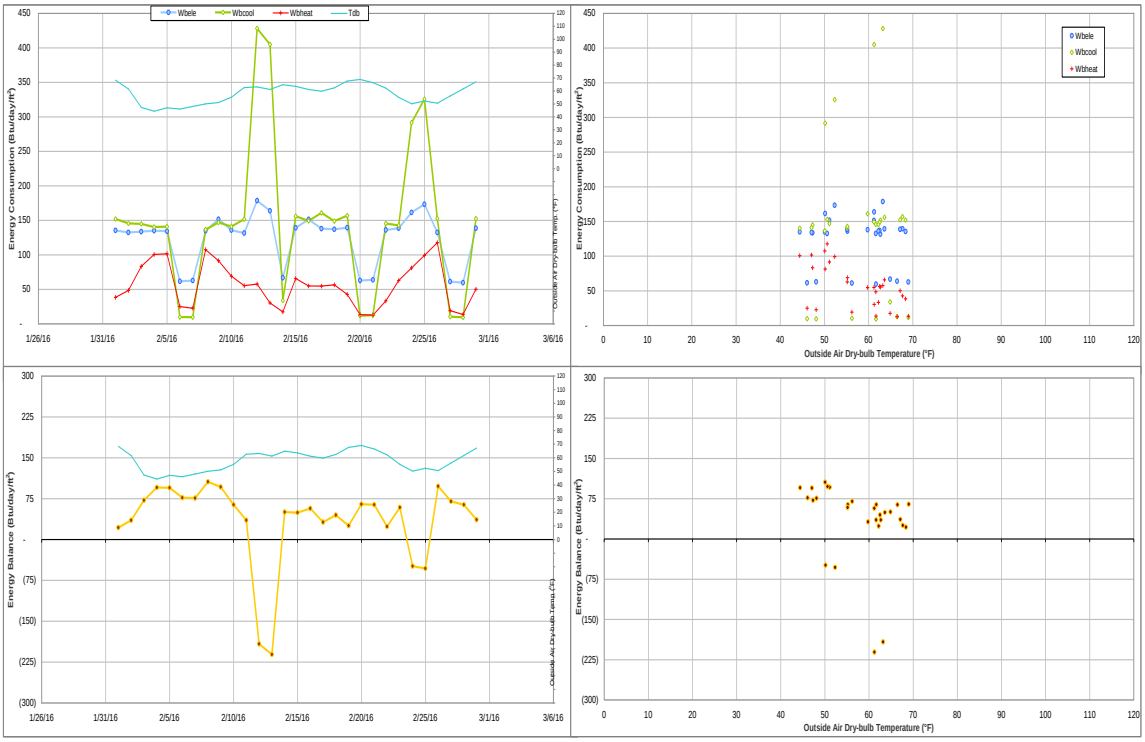


Figure IV-161 Agriculture Program Visitors Center TAMU BLDG # 1538 Energy Balance Plot during February 2016

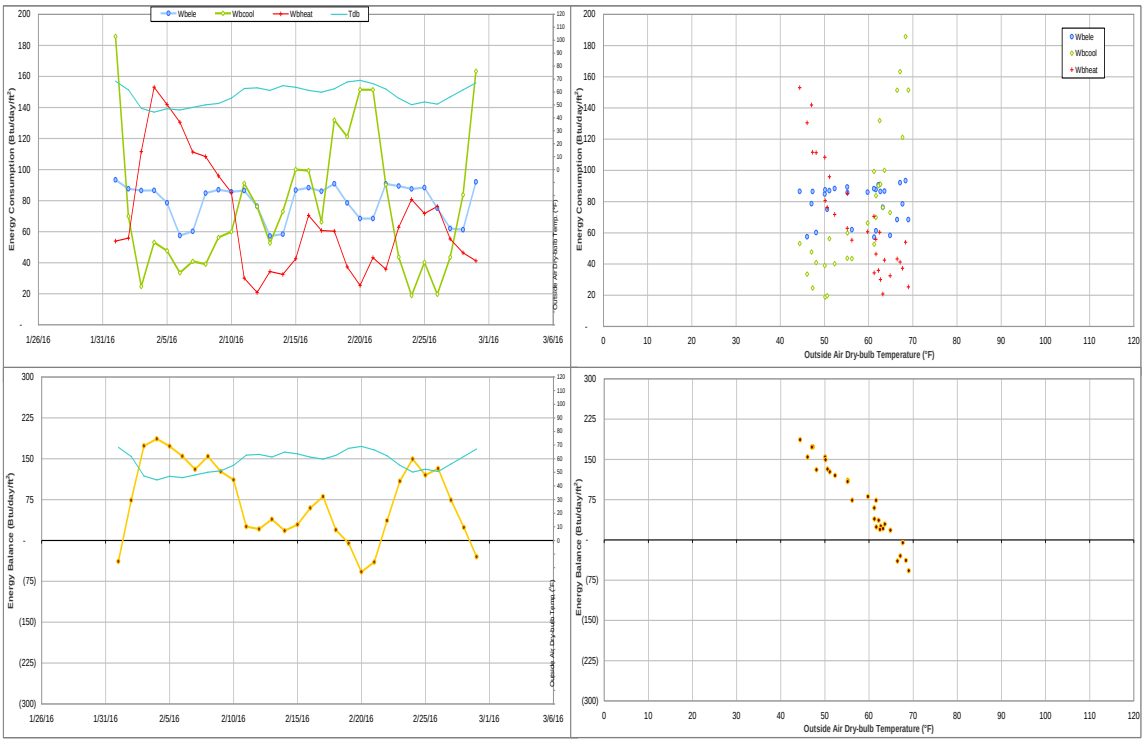


Figure IV-162 Physical Education Activity Program Building TAMU BLDG # 1540 Energy Balance Plot during February 2016

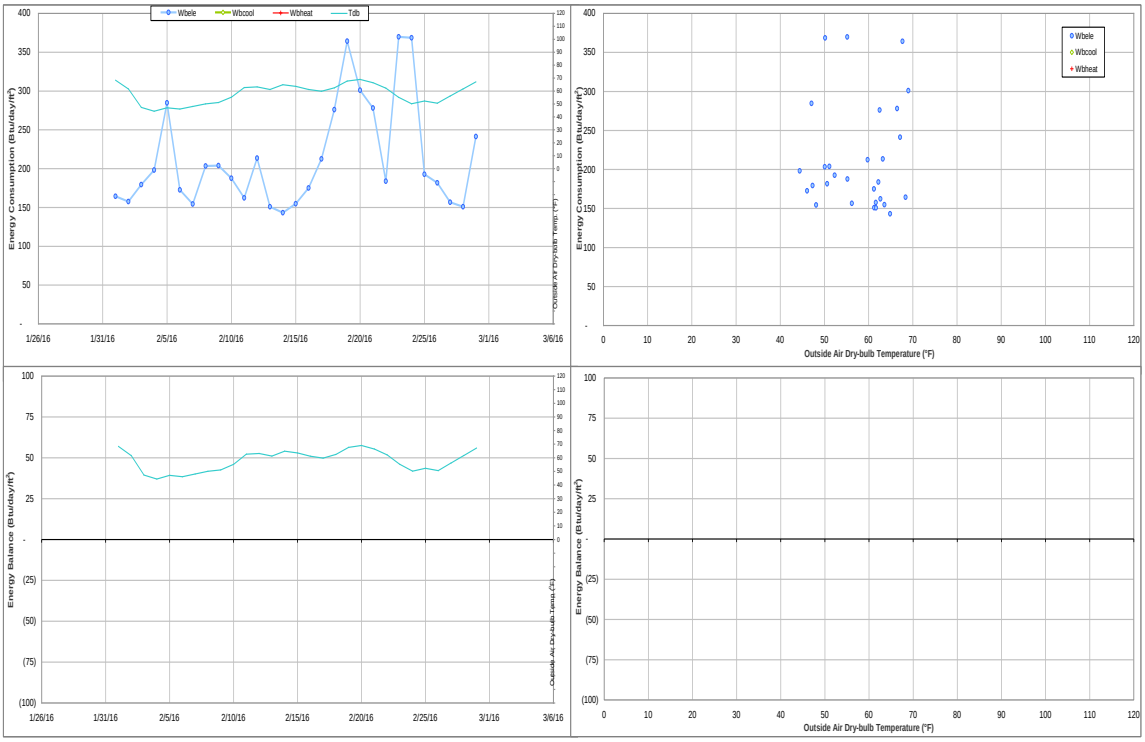


Figure IV-163 Olsen Field at Bluebell Park TAMU BLDG # 1550 Energy Balance Plot during February 2016

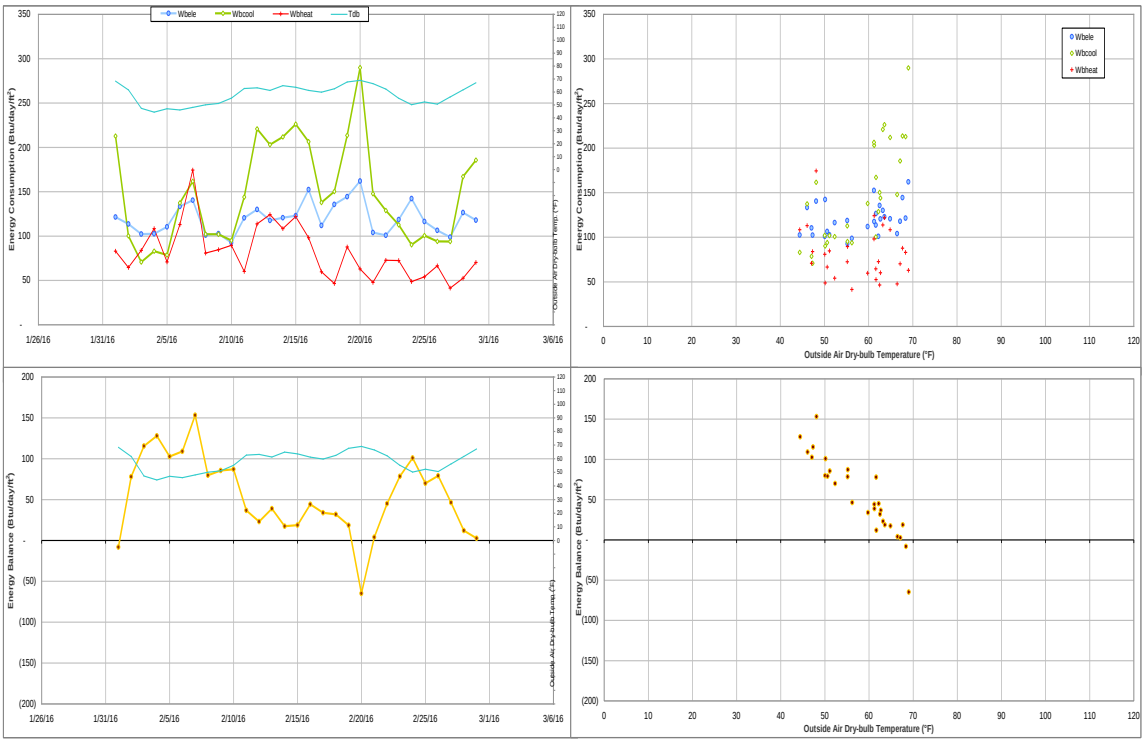


Figure IV-164 Reed Arena and Cox-McFerrin Center TAMU BLDG # 1554-1558 Energy Balance Plot during February 2016

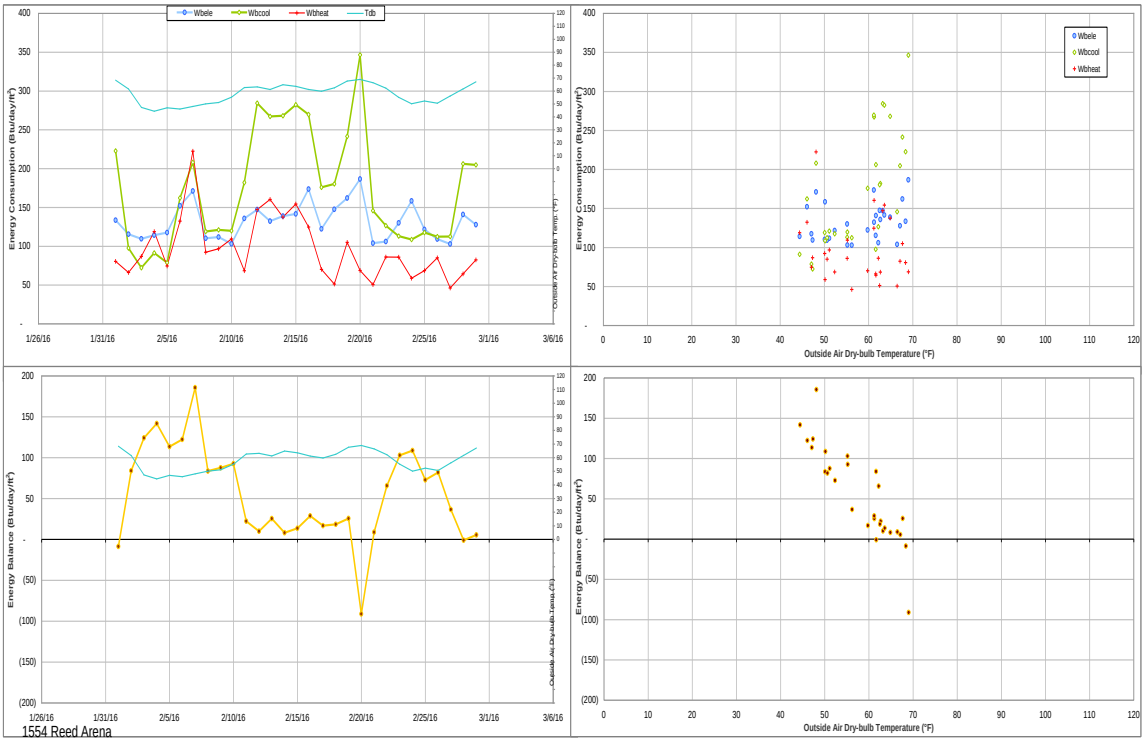


Figure IV-165 Reed Arena TAMU BLDG # 1554 Energy Balance Plot during February 2016

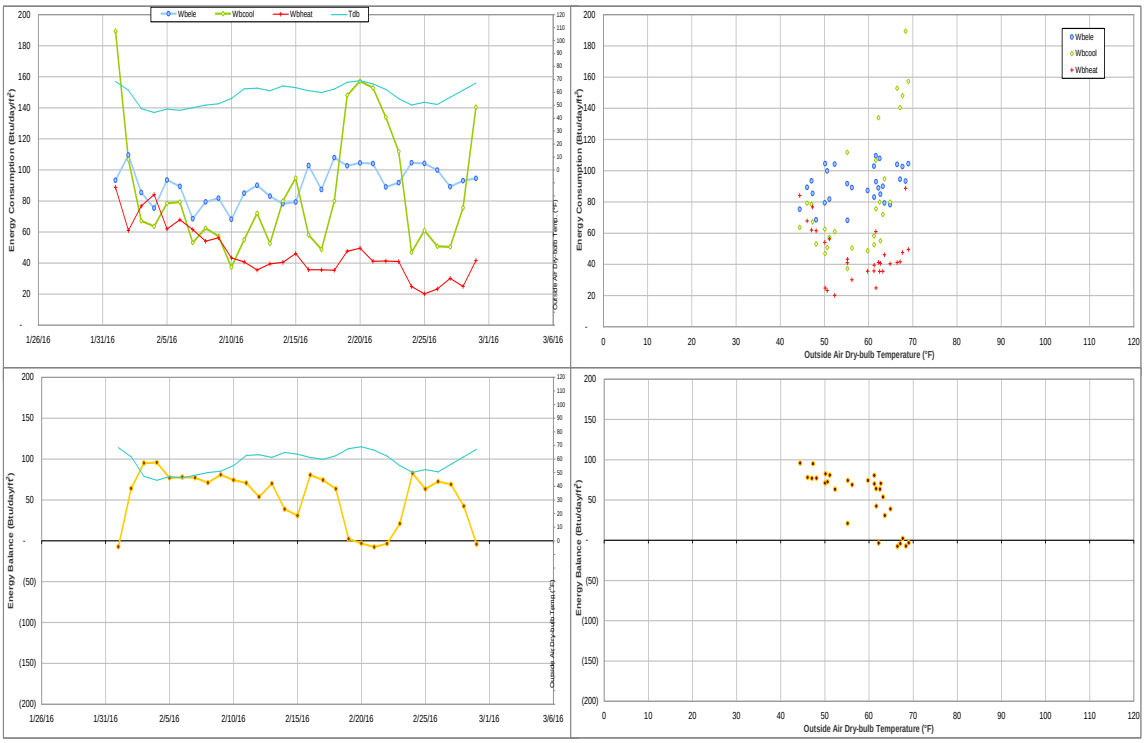


Figure IV-166 Cox-McFerrin Center for Aggie Basketball TAMU BLDG # 1558 Energy Balance Plot during February 2016

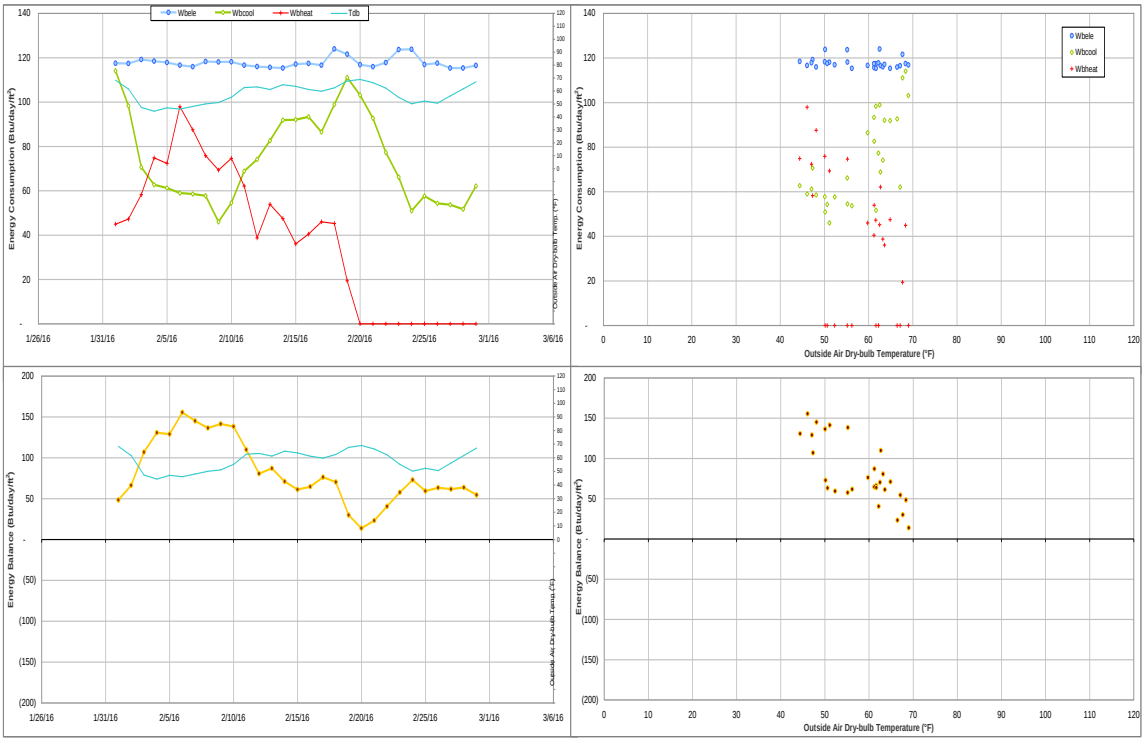


Figure IV-167 West Campus Parking Garage TAMU BLDG # 1559 Energy Balance Plot during February 2016

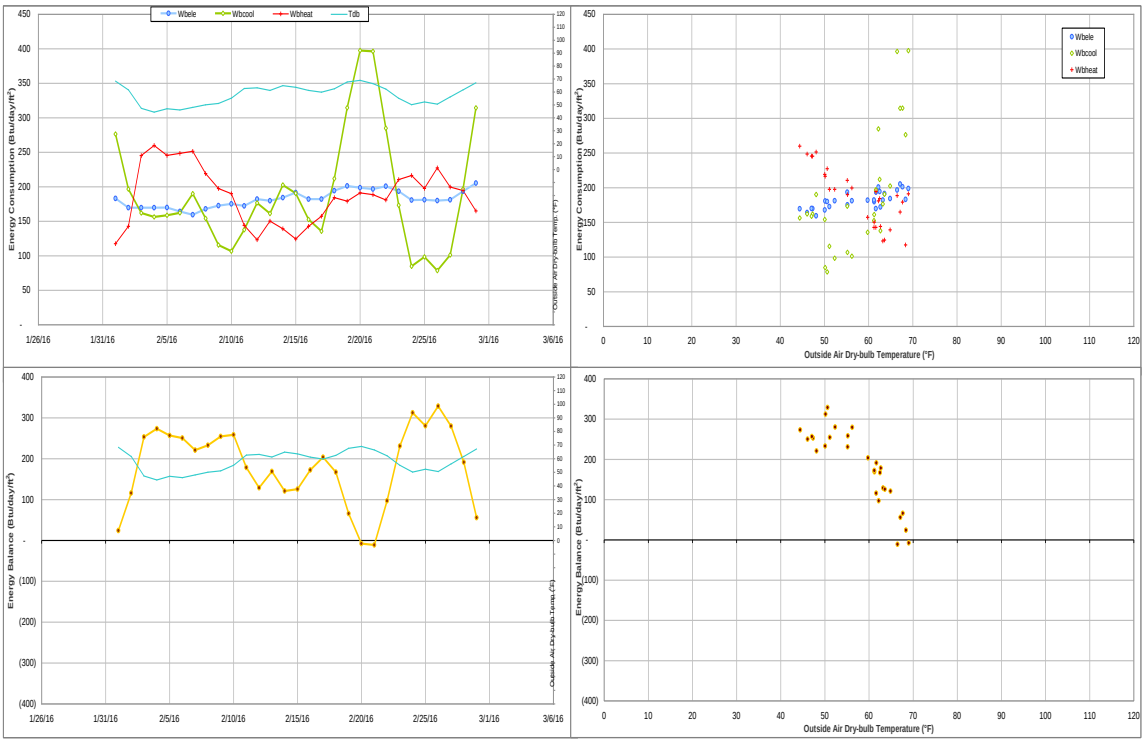


Figure IV-168 Student Recreation Center TAMU BLDG # 1560 Energy Balance Plot during February 2016

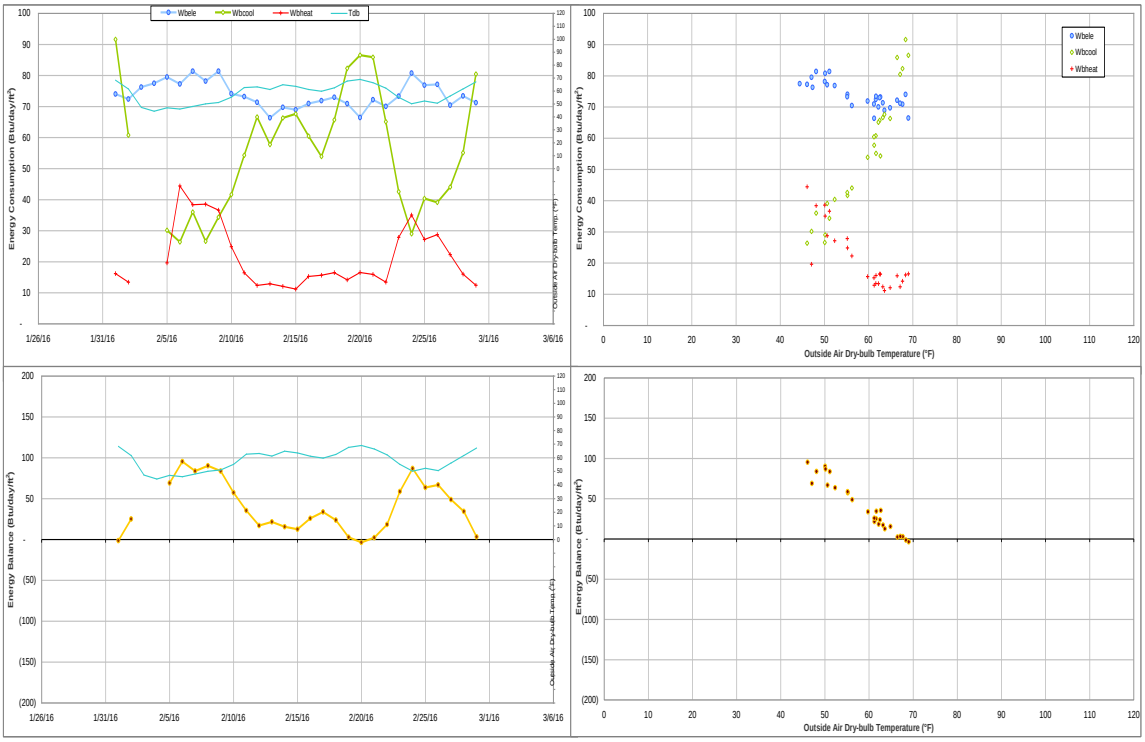


Figure IV-169 White Creek Apartment 1 TAMU BLDG # 1590 Energy Balance Plot during February 2016

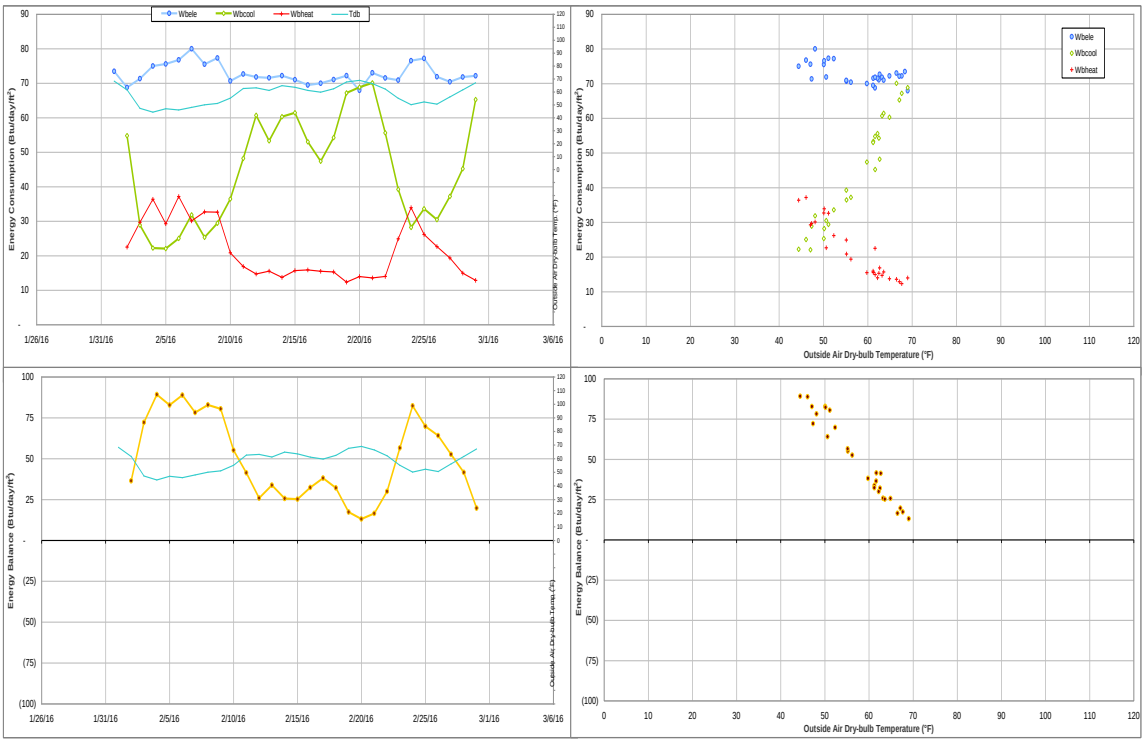


Figure IV-170 White Creek Apartment 2 TAMU BLDG # 1591 Energy Balance Plot during February 2016

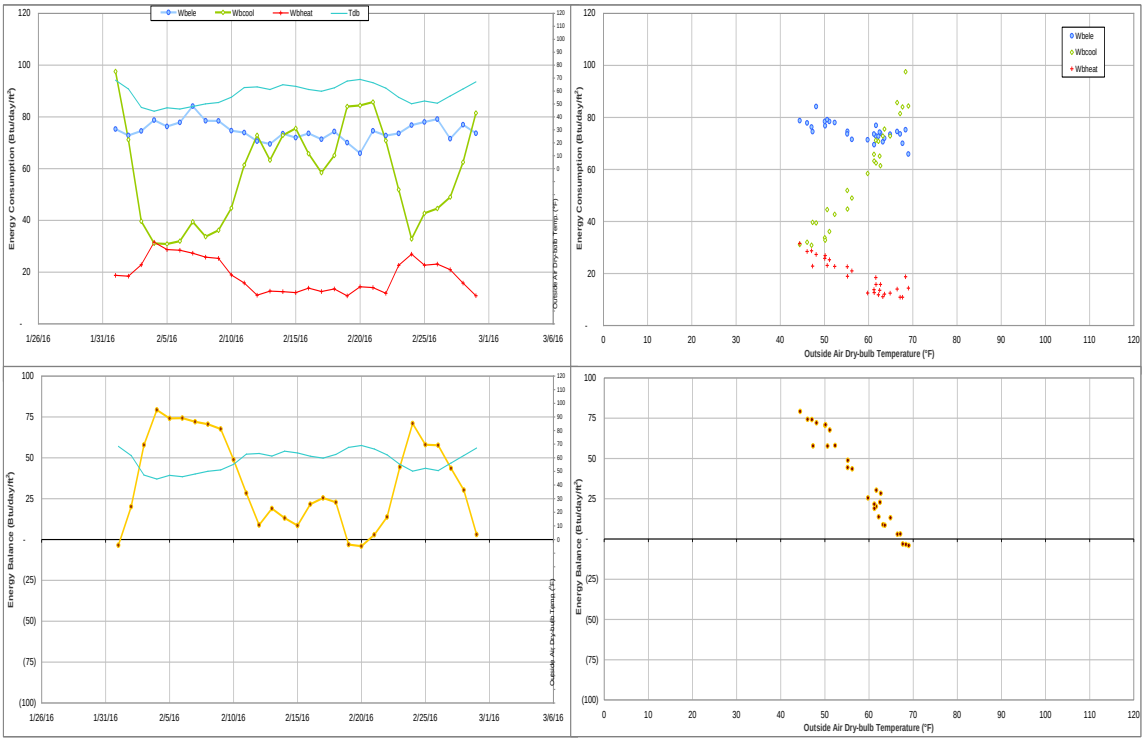


Figure IV-171 White Creek Apartment 3 TAMU BLDG # 1592 Energy Balance Plot during February 2016

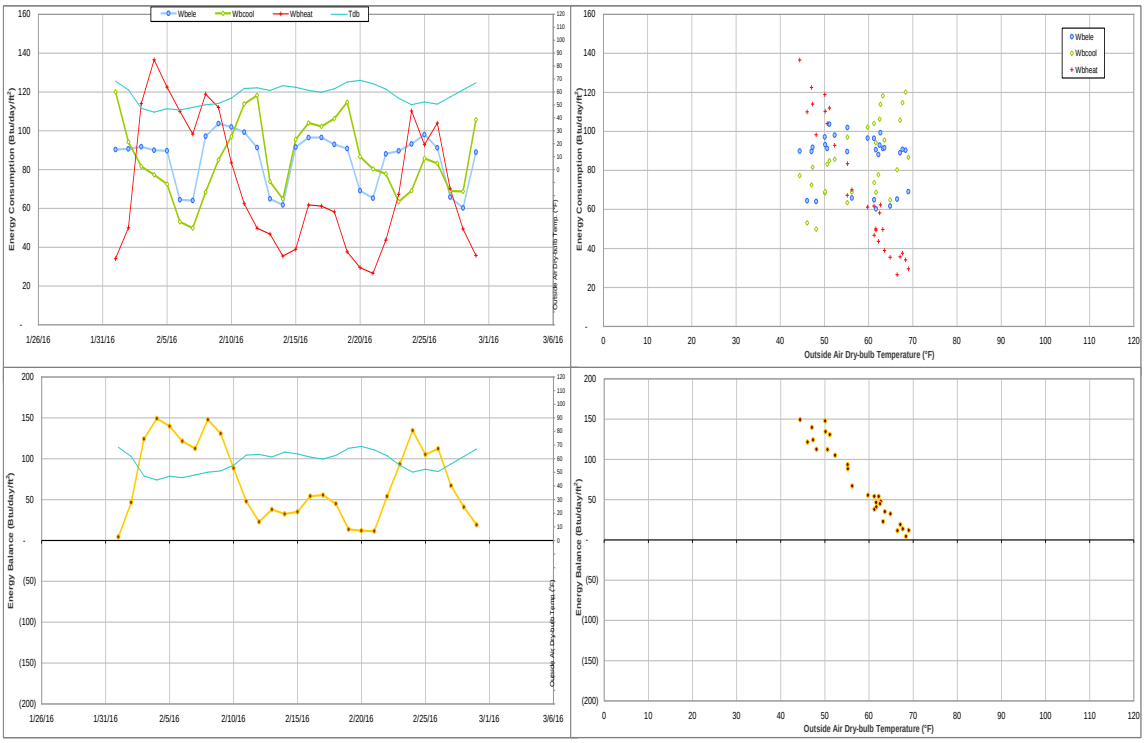


Figure IV-172 Gilchrist TTI Building TAMU BLDG # 1600 Energy Balance Plot during February 2016

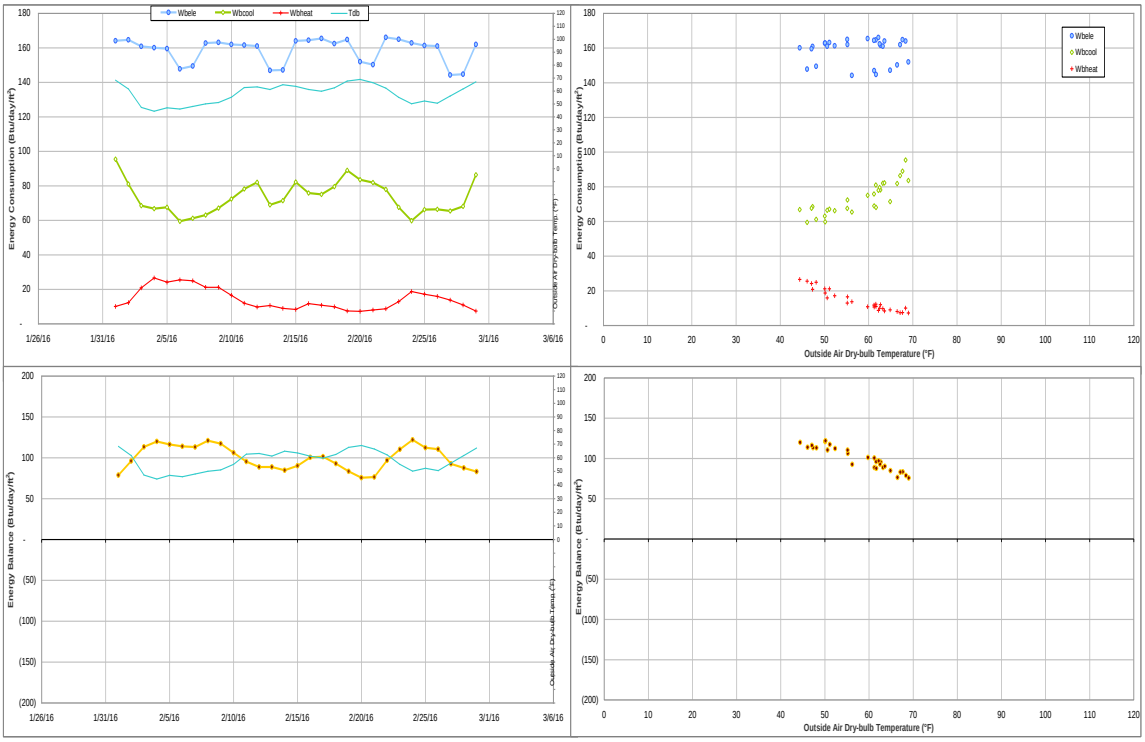


Figure IV-173 International Ocean Discovery Building TAMU BLDG # 1601 Energy Balance Plot during February 2016

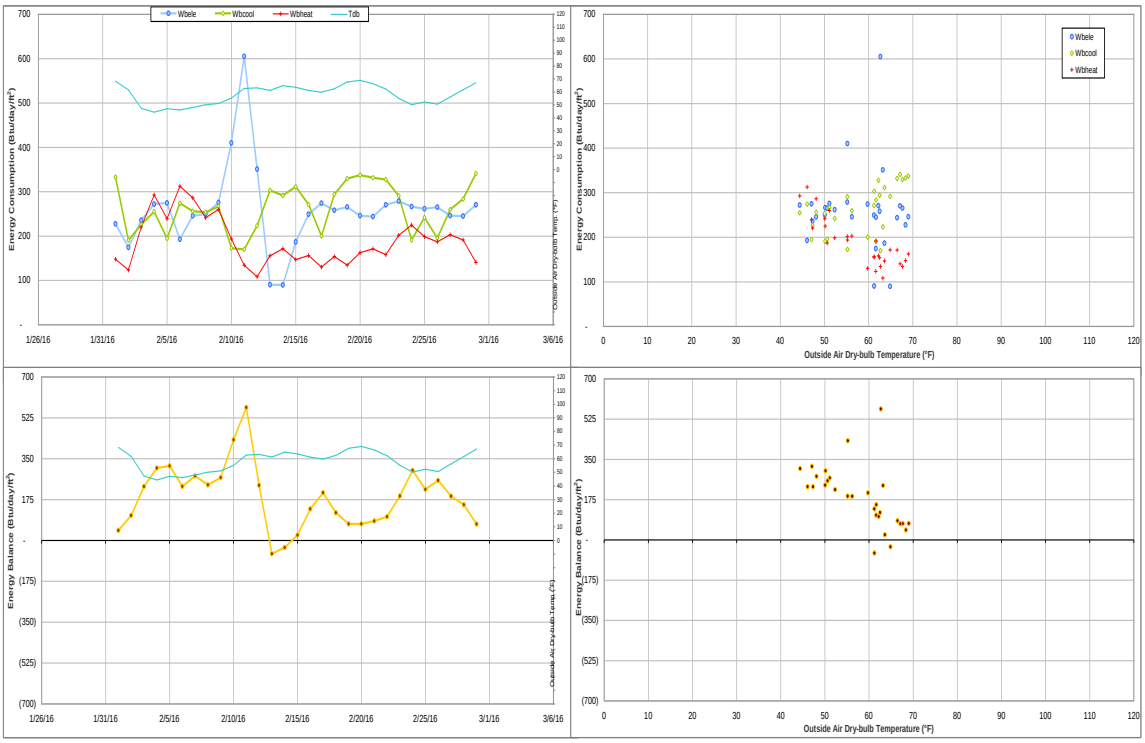


Figure IV-174 Offshore Technology Research Center TAMU BLDG # 1604 Energy Balance Plot during February 2016

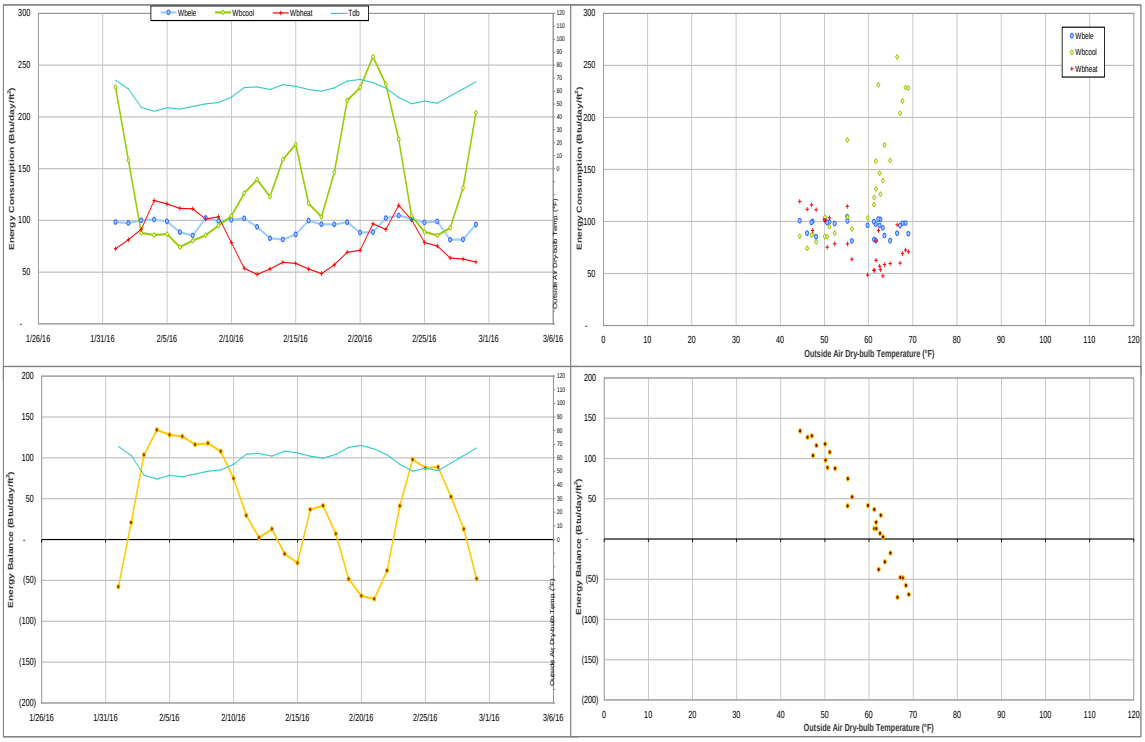


Figure IV-175 George Bush Presidential Library & Museum TAMU BLDG # 1606 Energy Balance Plot during February 2016

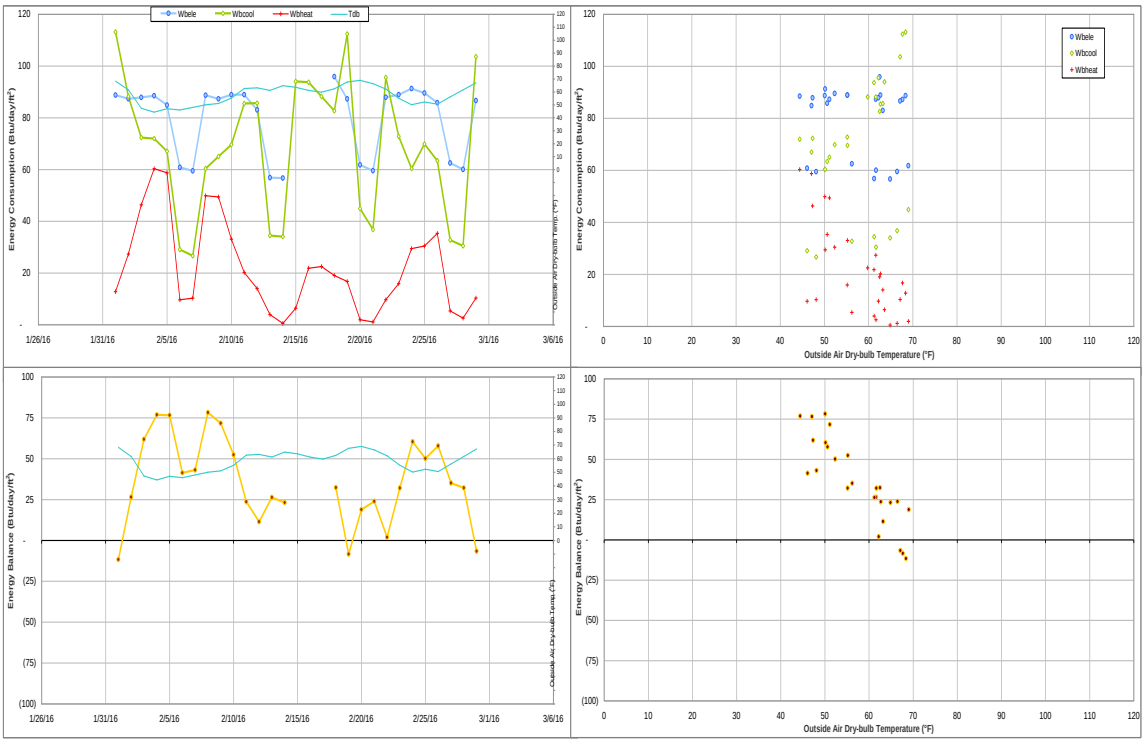


Figure IV-176 Allen Building TAMU BLDG # 1607 Energy Balance Plot during February 2016

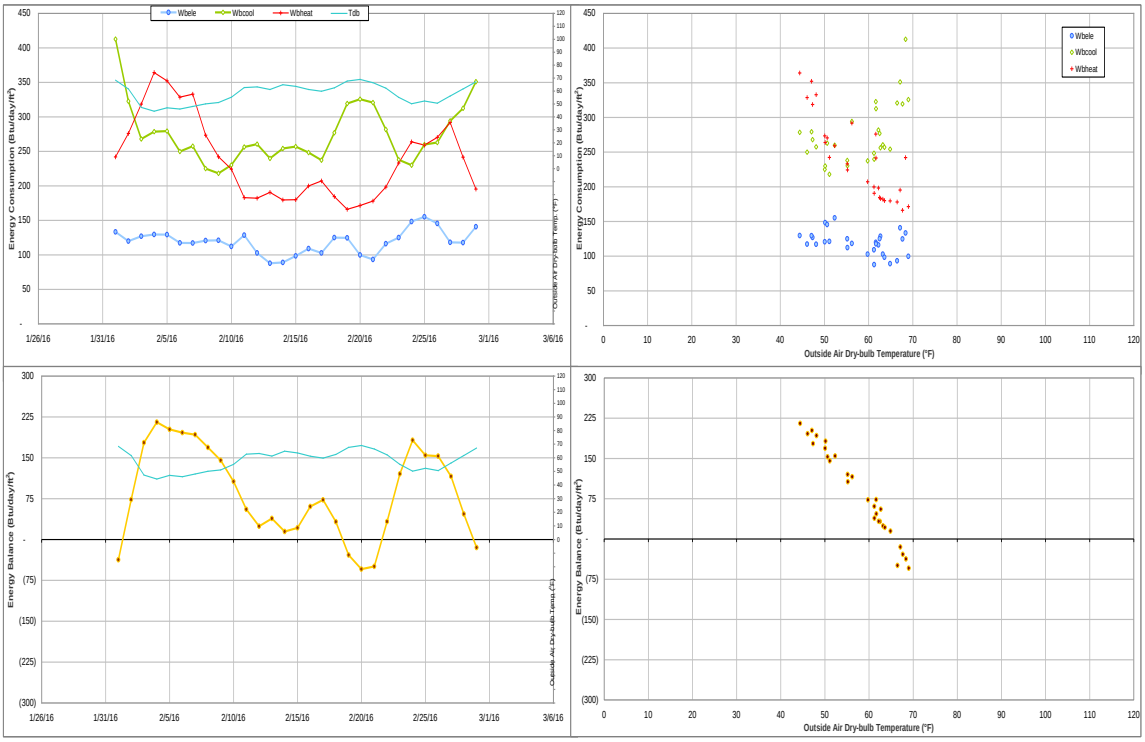


Figure IV-177 Annenberg Presidential Conference Center TAMU BLDG # 1608 Energy Balance Plot during February 2016

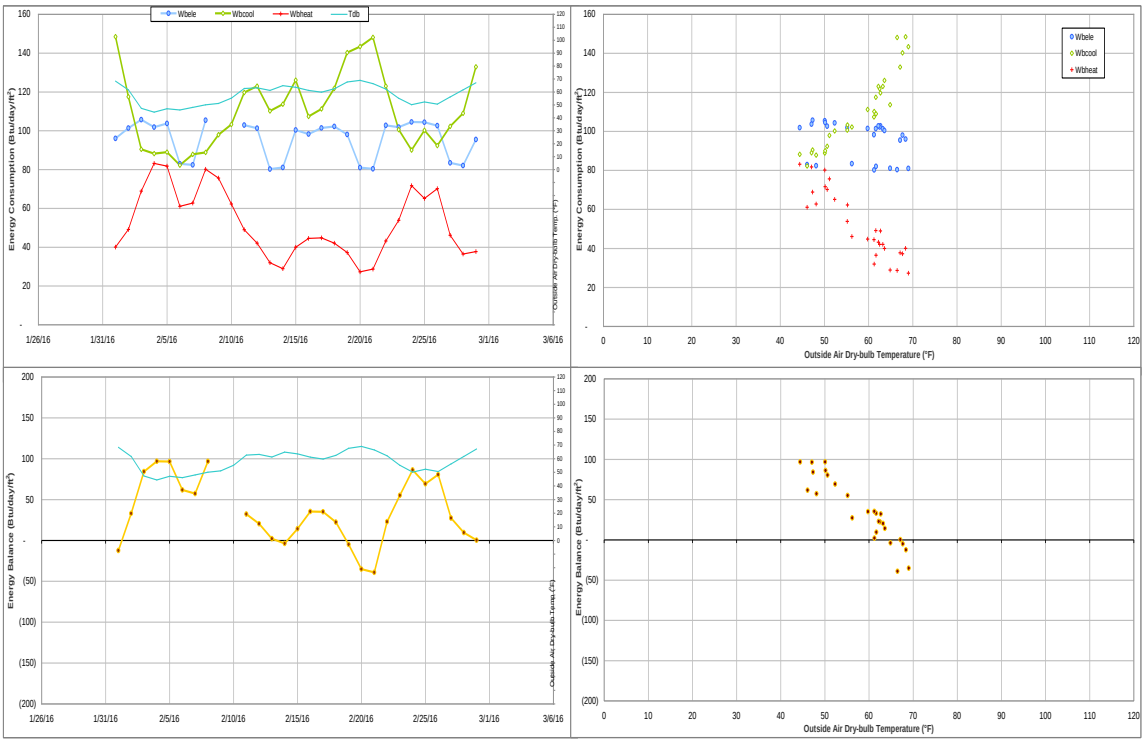


Figure IV-178 TTI Headquarters TAMU BLDG # 1609 Energy Balance Plot during February 2016

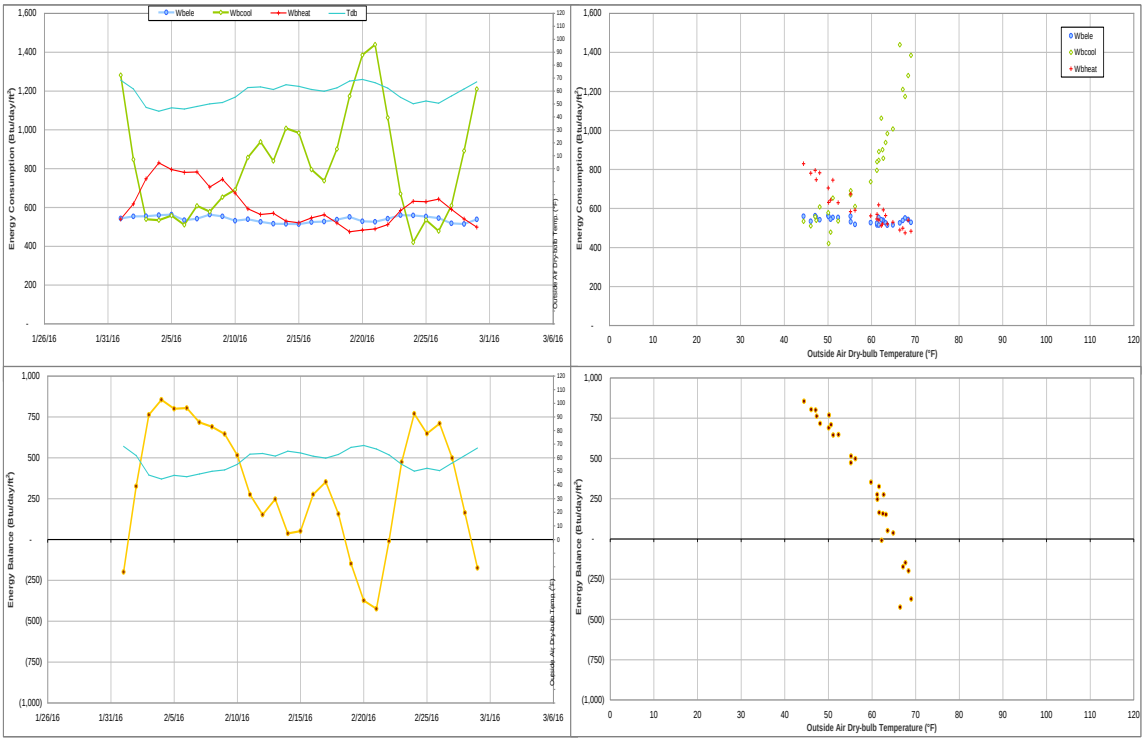


Figure IV-179 Engineering Research Building TAMU BLDG # 1611 Energy Balance Plot during February 2016

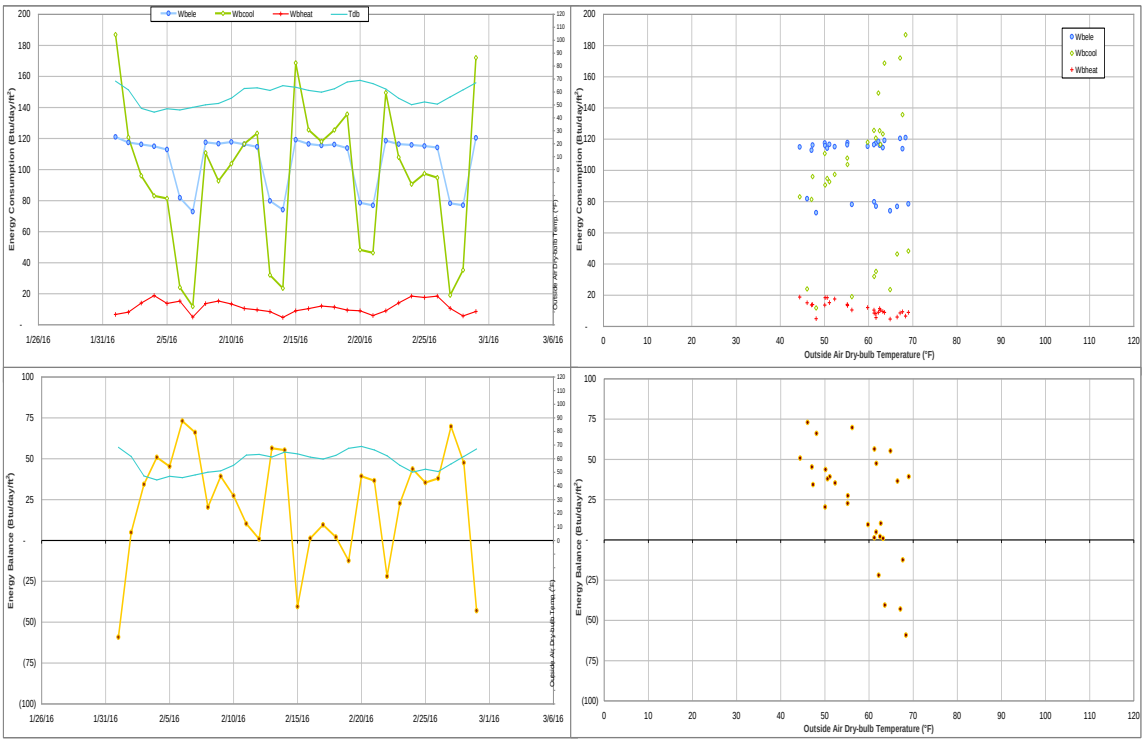


Figure IV-180 General Services Complex TAMU BLDG # 1800 Energy Balance Plot during February 2016

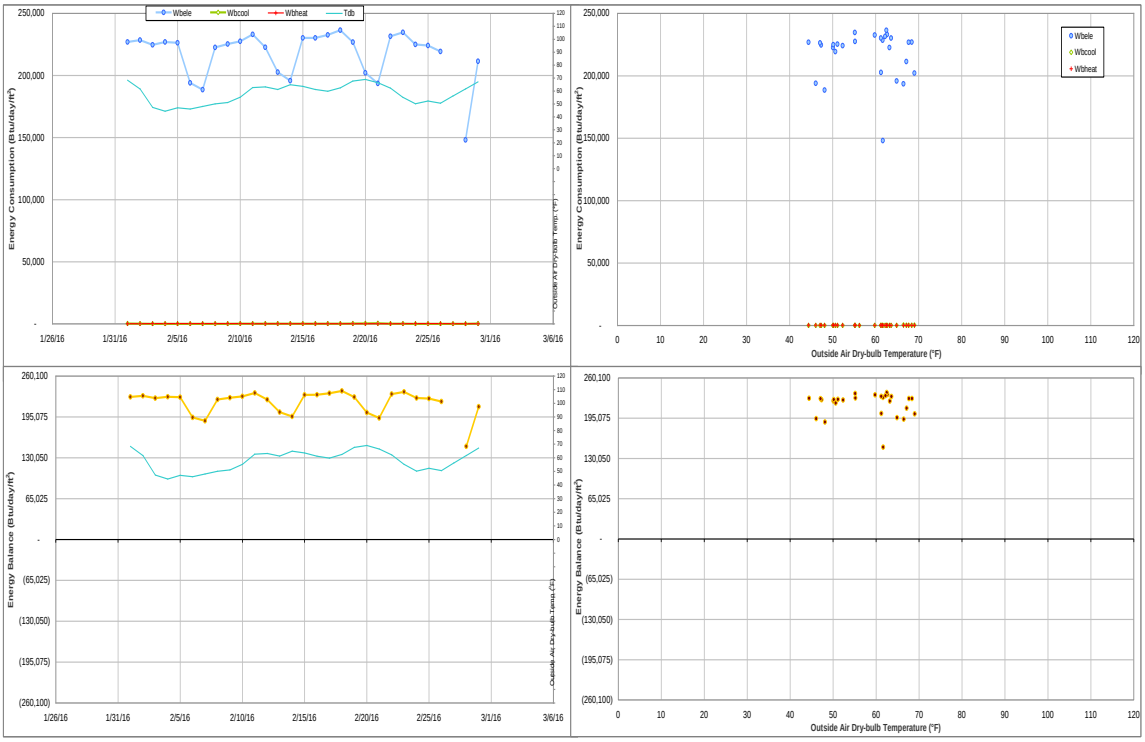


Figure IV-181 Office of the State Chemist Building TAMU BLDG # 1810 Energy Balance Plot during February 2016

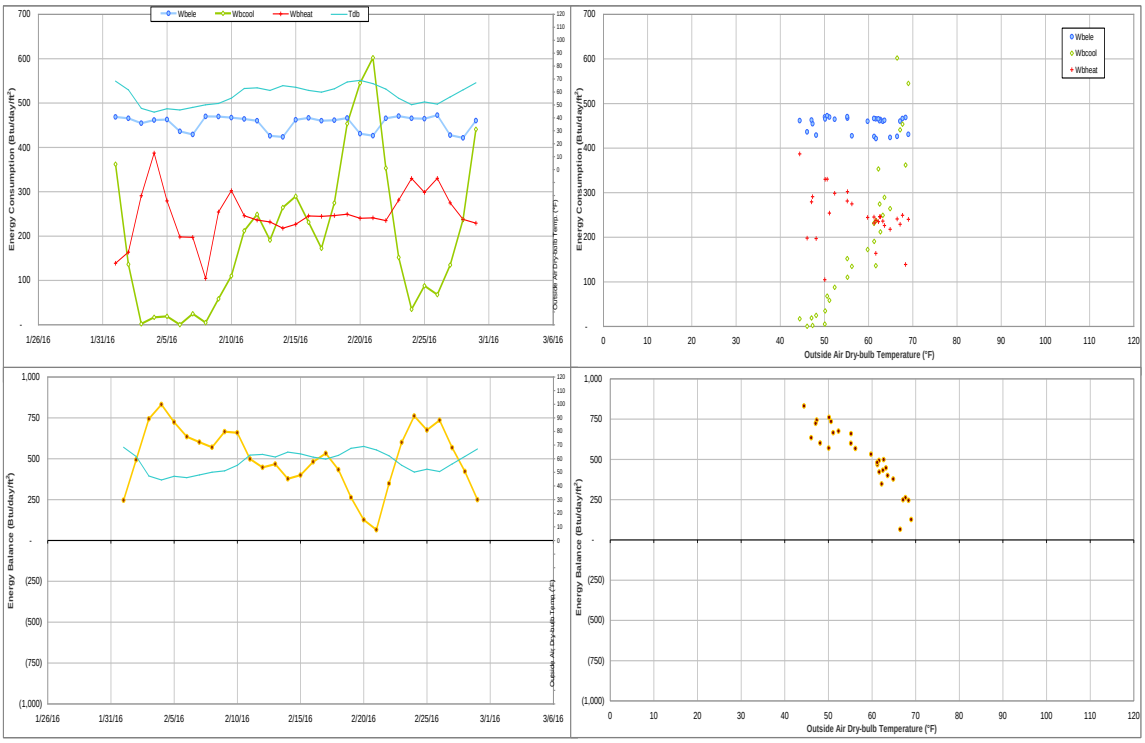


Figure IV-182 Vet Med Research Bldg Addition TAMU BLDG # 1811 Energy Balance Plot during February 2016

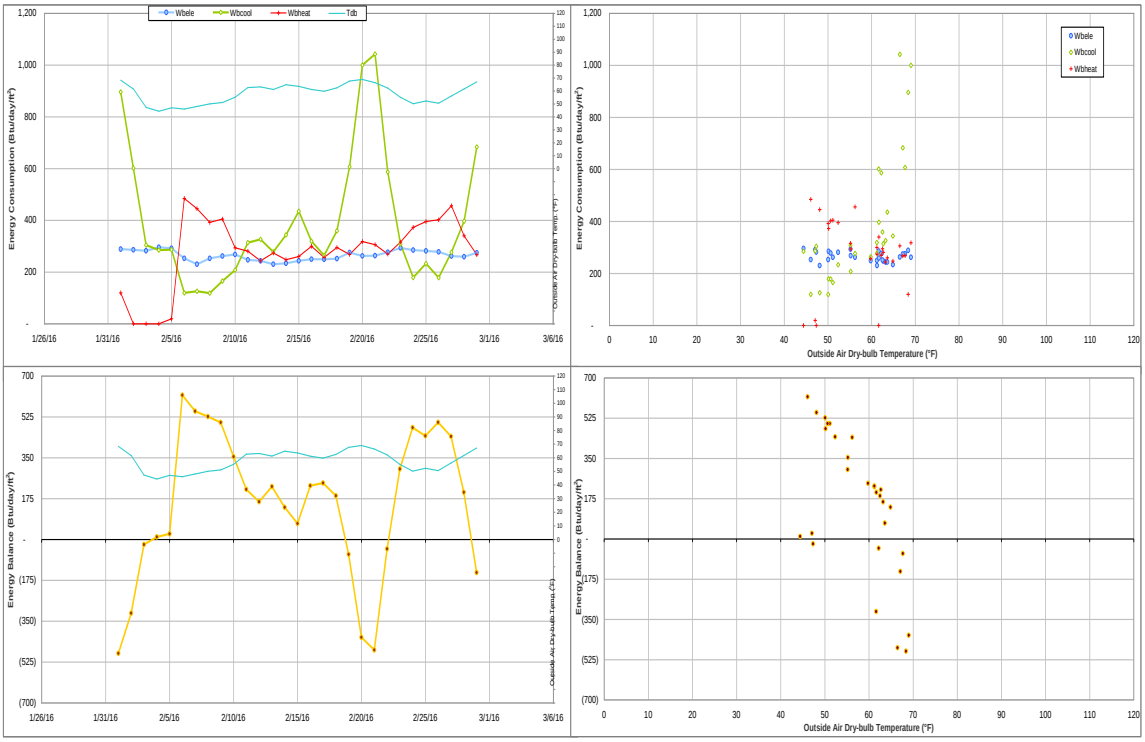


Figure IV-183 Texas Institute for Genomic Medicine TAMU BLDG # 1900 Energy Balance Plot during February 2016

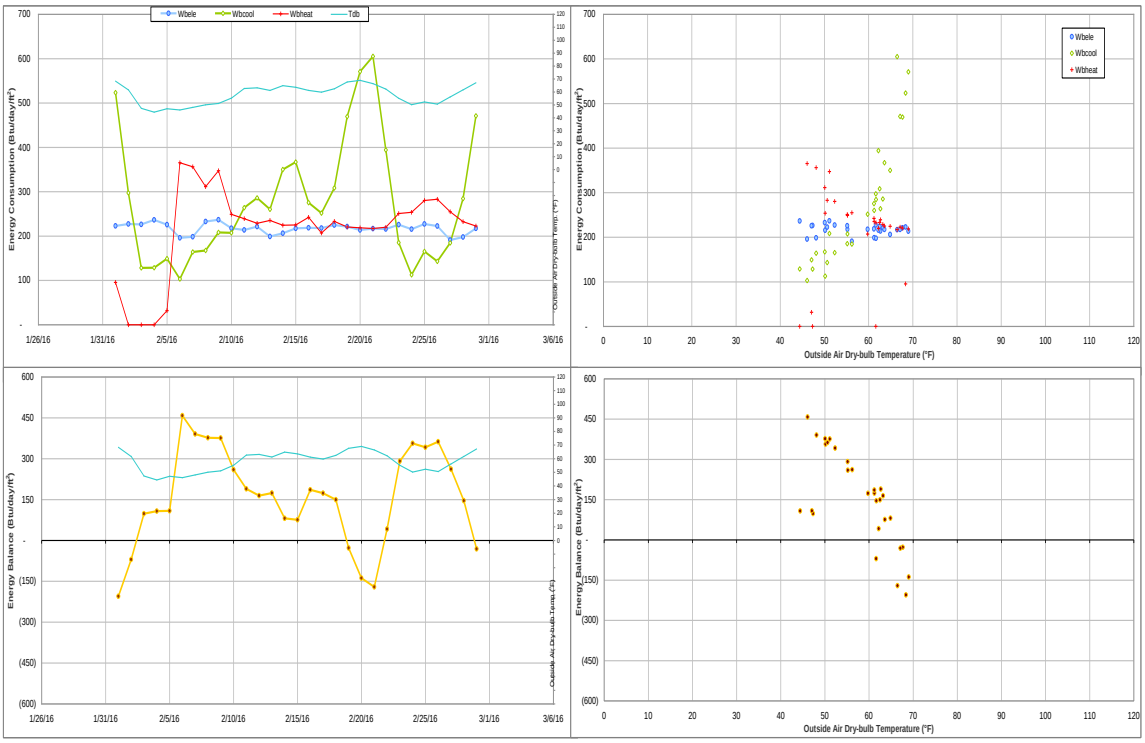


Figure IV-184 Texas A&M Institute for Preclinical Studies A TAMU BLDG # 1904 Energy Balance Plot during February 2016

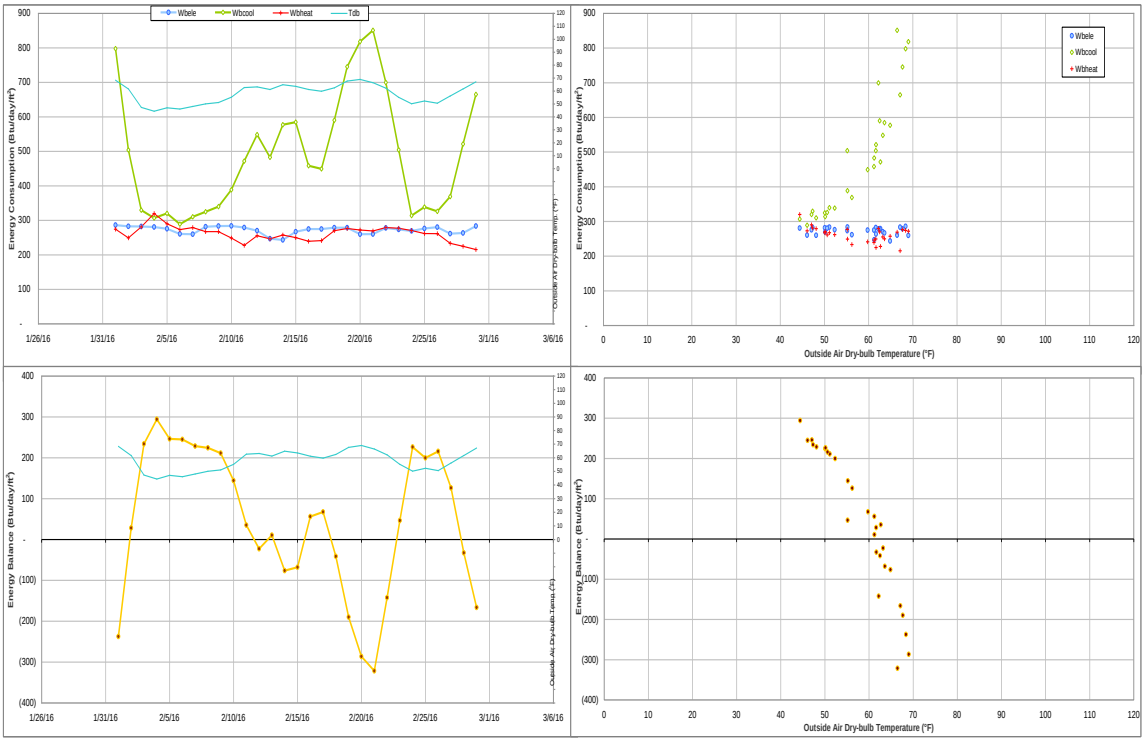


Figure IV-185 National Center for Therapeutics Manufacturing TAMU BLDG # 1910 Energy Balance Plot during February 2016

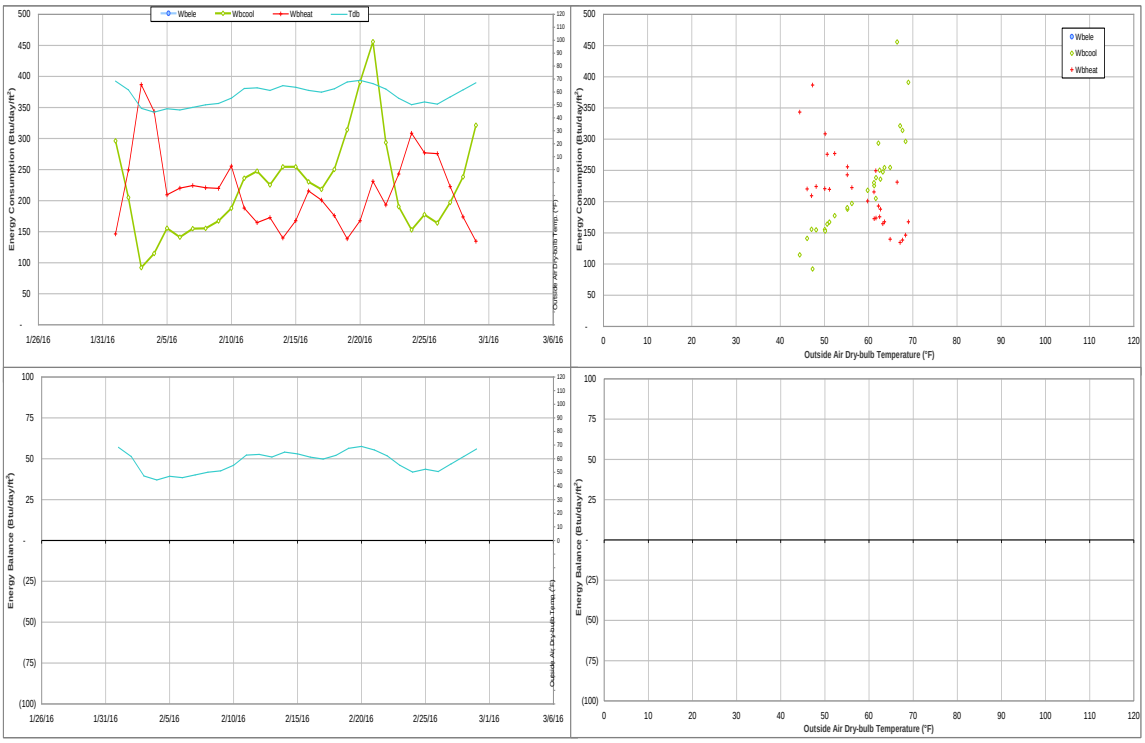


Figure IV-186 Multi-Species Research Building TAMU BLDG # 1911 Energy Balance Plot during February 2016

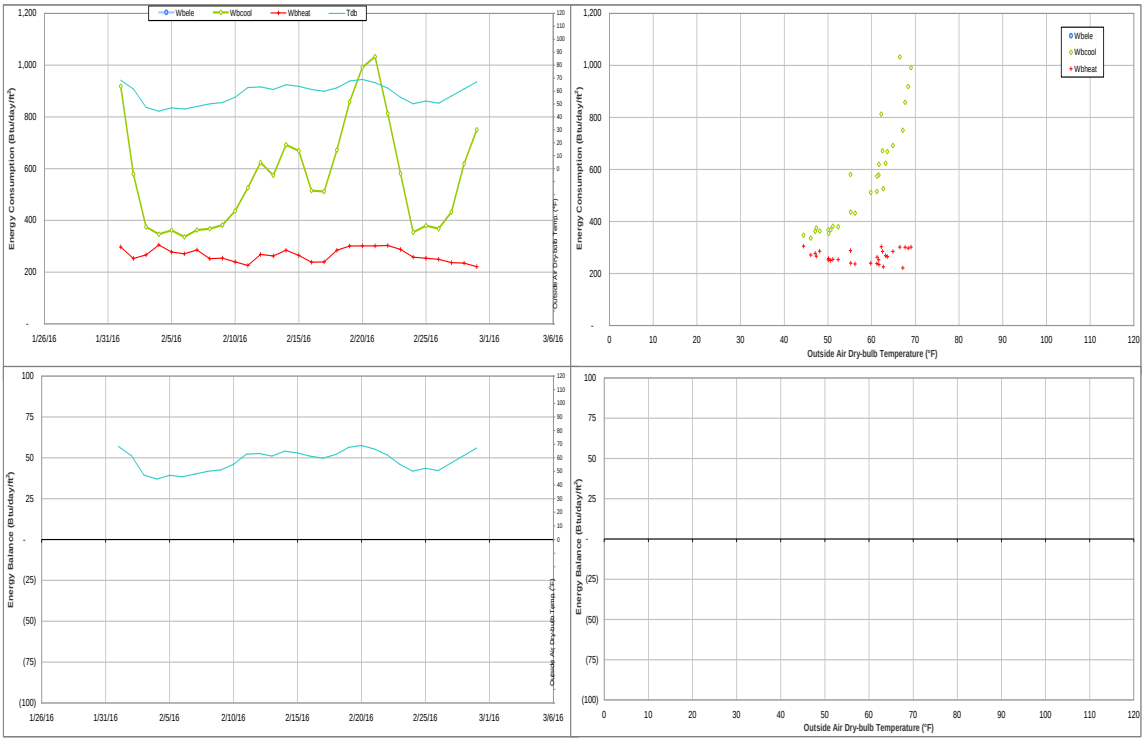


Figure IV-187 NCTM Manufacturing Building TAMU BLDG # 10226 Energy Balance Plot during February 2016

V. Energy Balance Plots with filled-in data for February 2016 Consumption

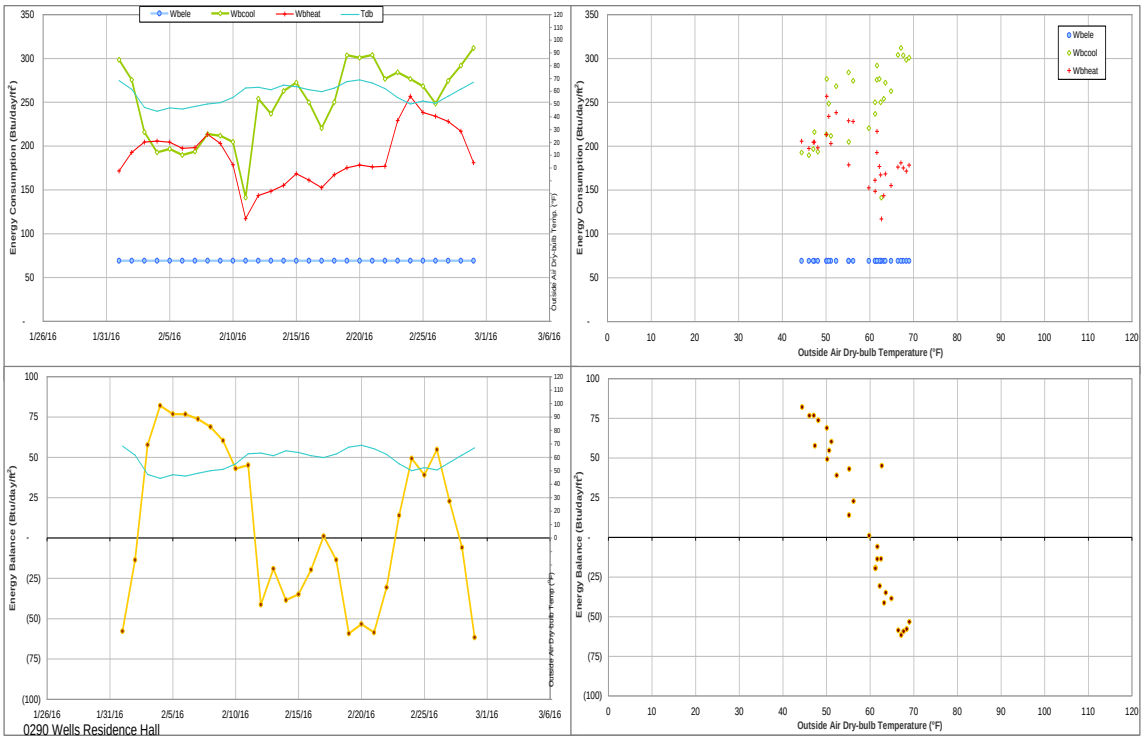


Figure V-1 Wells Residence Hall TAMU BLDG # 290 Energy Balance Plot during February 2016

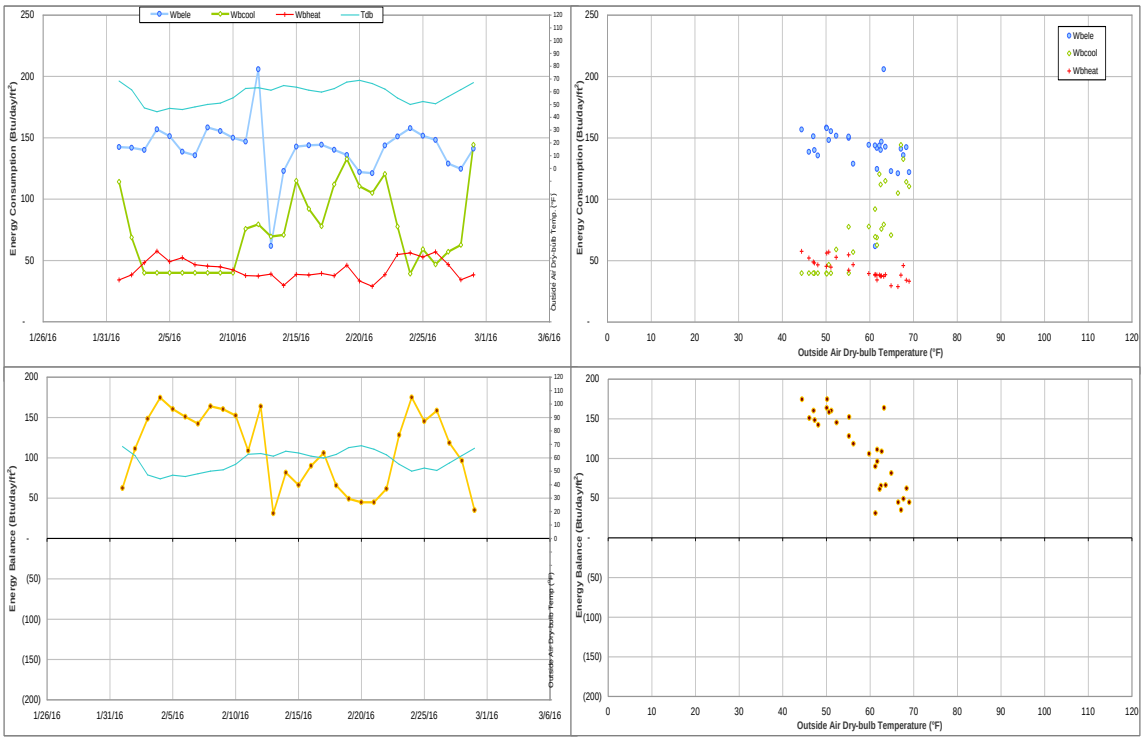


Figure V-2 Mitchell Inst. for Fundamental Phys & Astronomy TAMU BLDG # 296 Energy Balance Plot during February 2016

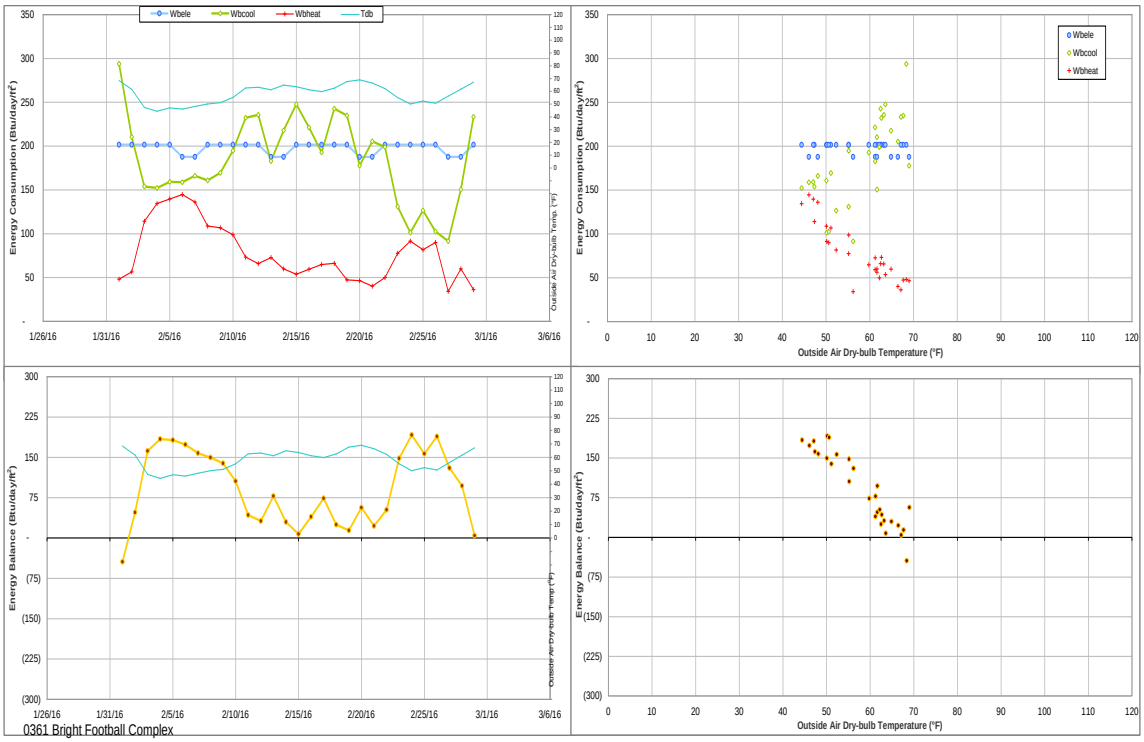


Figure V-3 Bright Football Complex TAMU BLDG # 361 Energy Balance Plot during February 2016

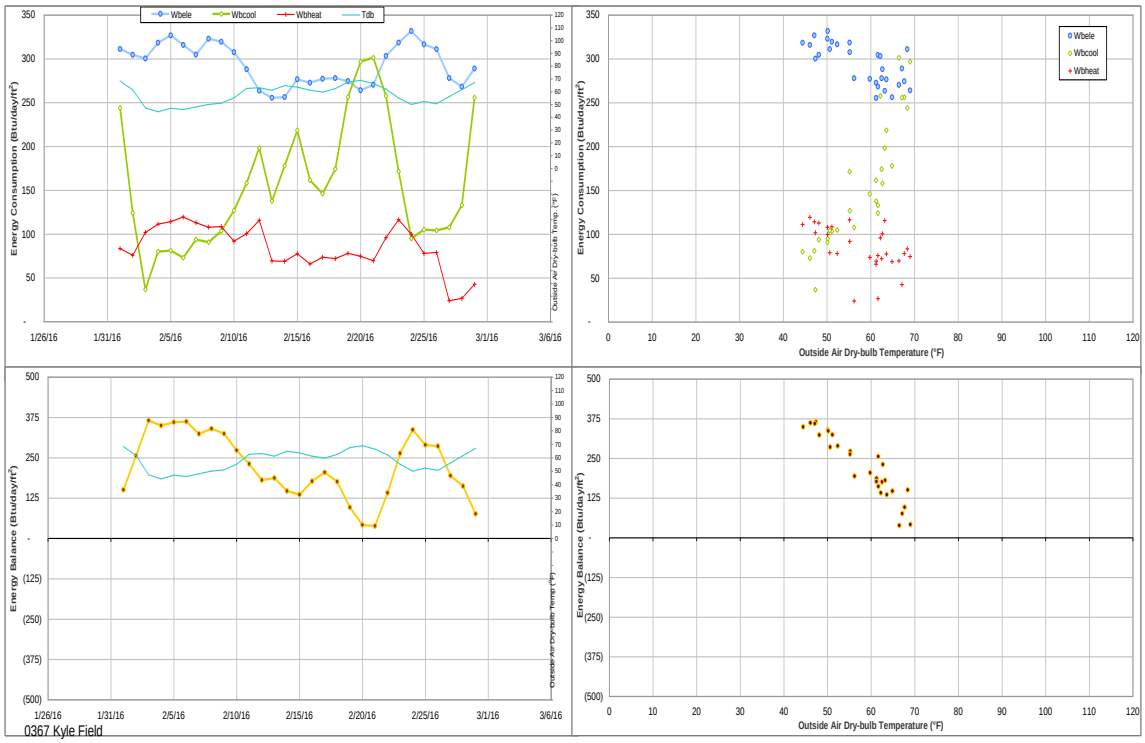


Figure V-4 Kyle Field TAMU BLDG # 367 Energy Balance Plot during February 2016

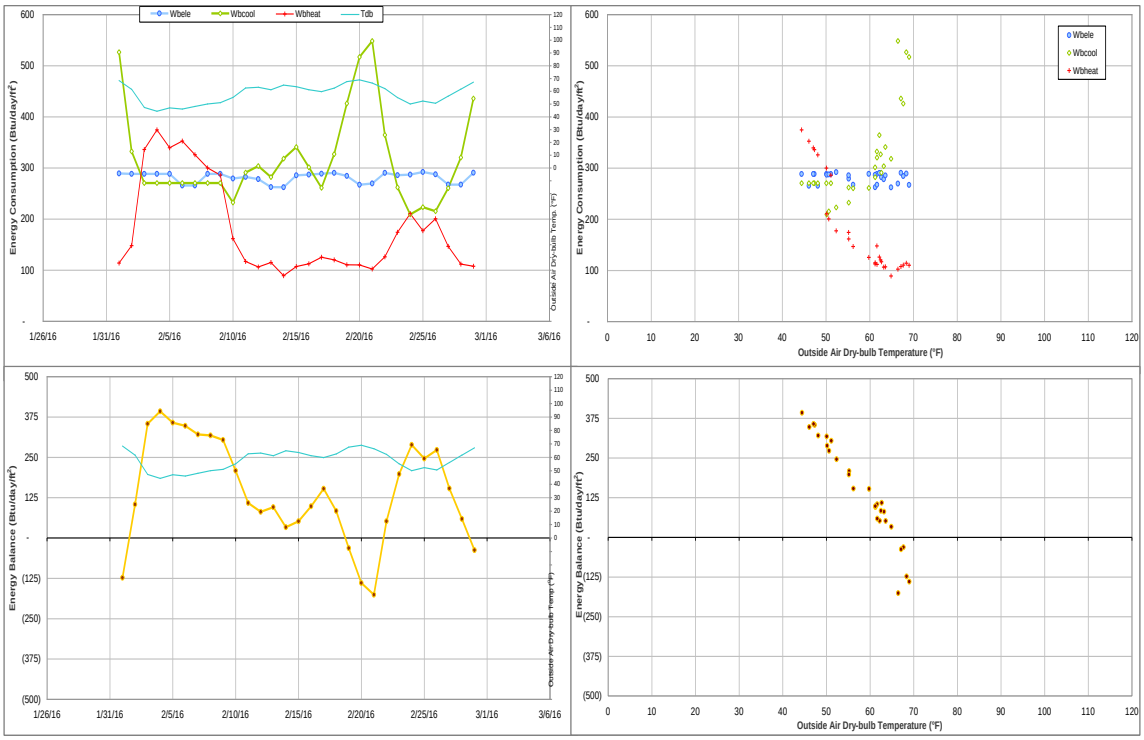


Figure V-5 Jack E. Brown Chemical Engineering Building TAMU BLDG # 386 Energy Balance Plot during February 2016

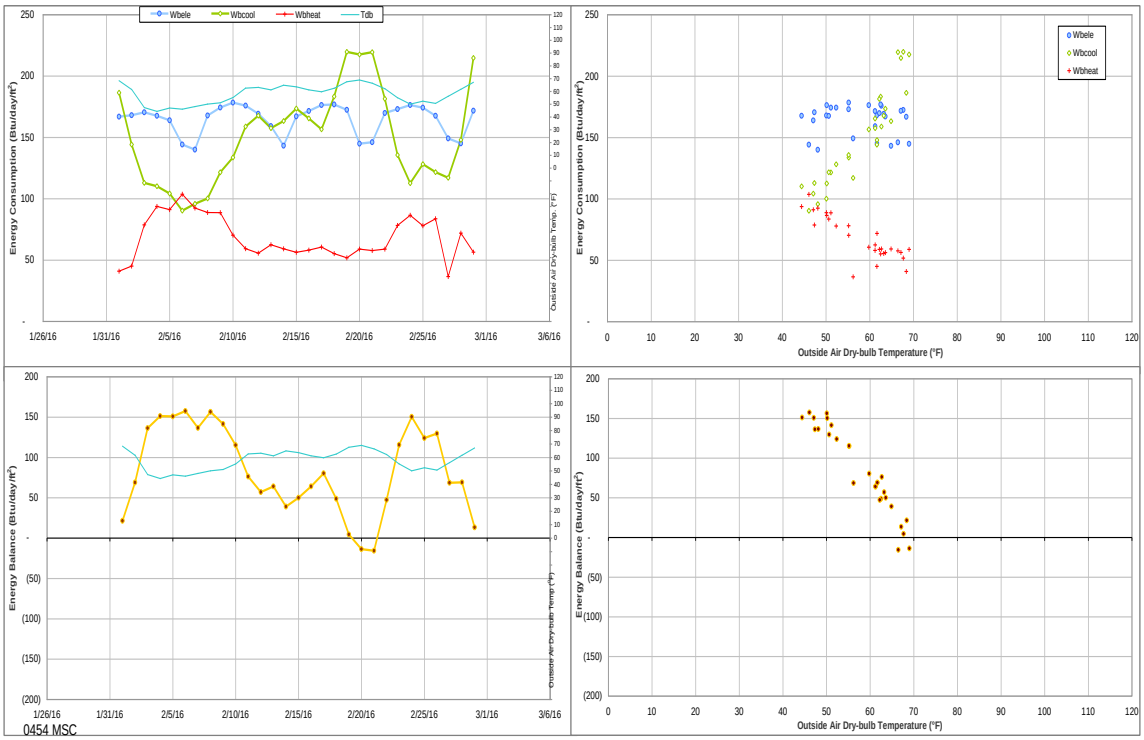


Figure V-6 MSC TAMU BLDG # 454 Energy Balance Plot during February 2016

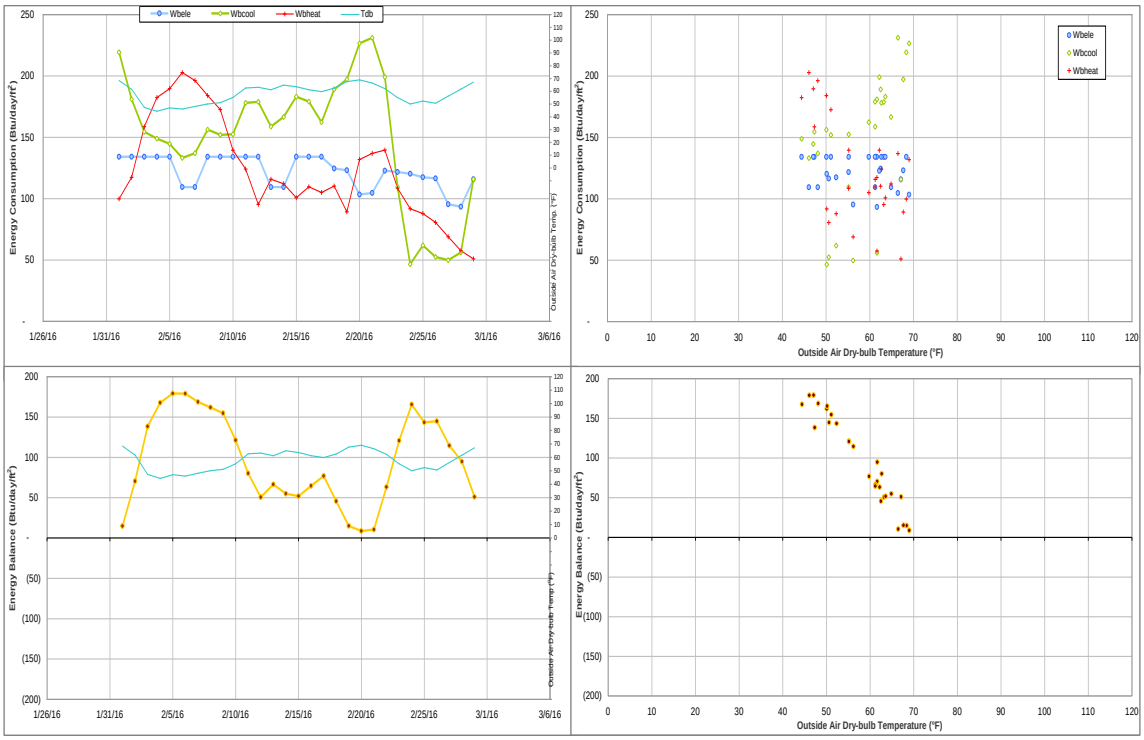


Figure V-7 Butler Hall TAMU BLDG # 465 Energy Balance Plot during February 2016

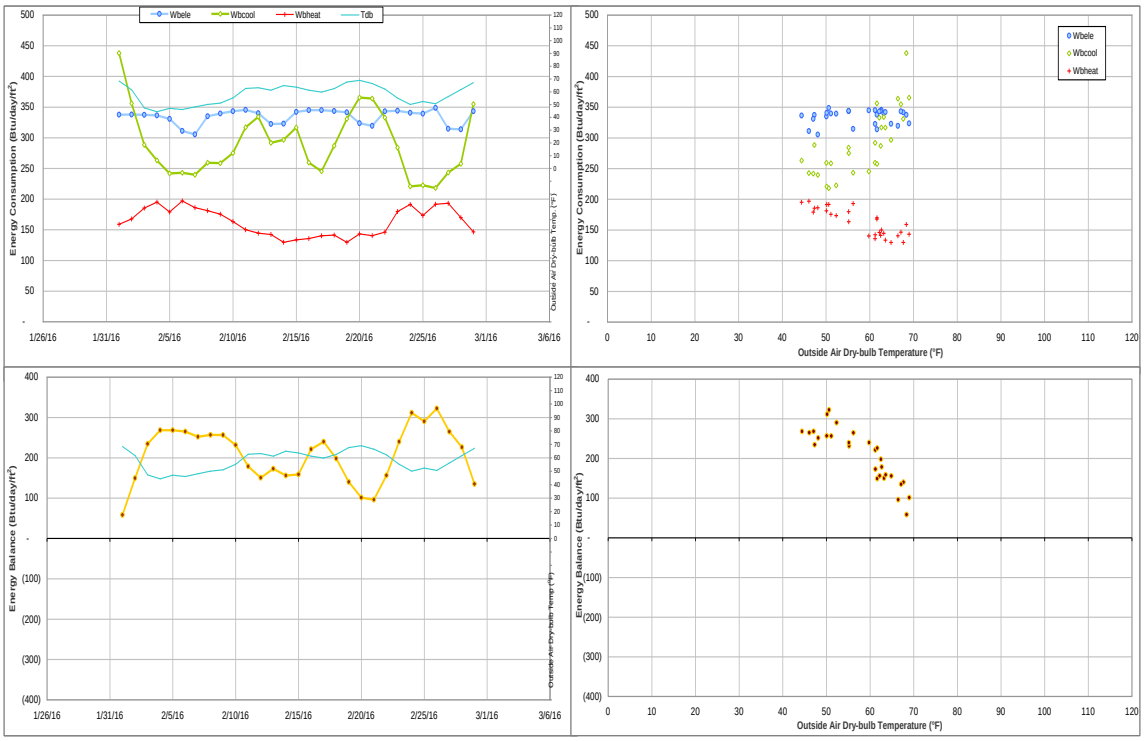


Figure V-8 Biological Sciences Building - East TAMU BLDG # 467 Energy Balance Plot during February 2016

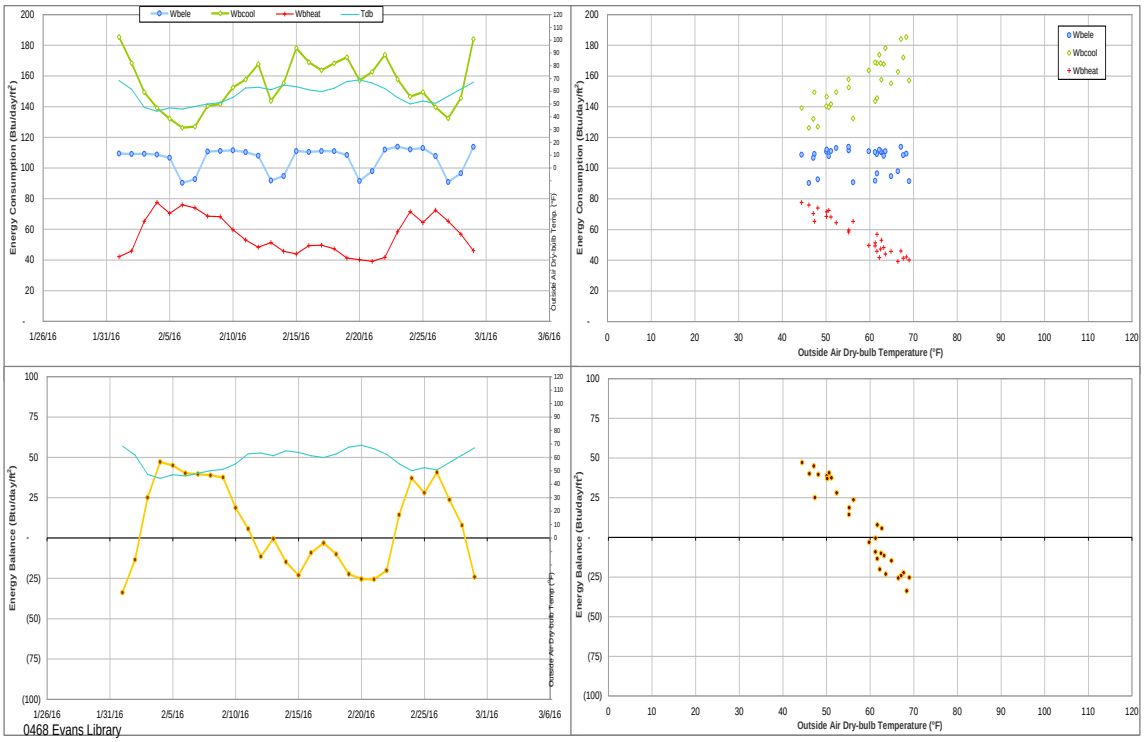


Figure V-9 Evans Library TAMU BLDG # 468 Energy Balance Plot during February 2016

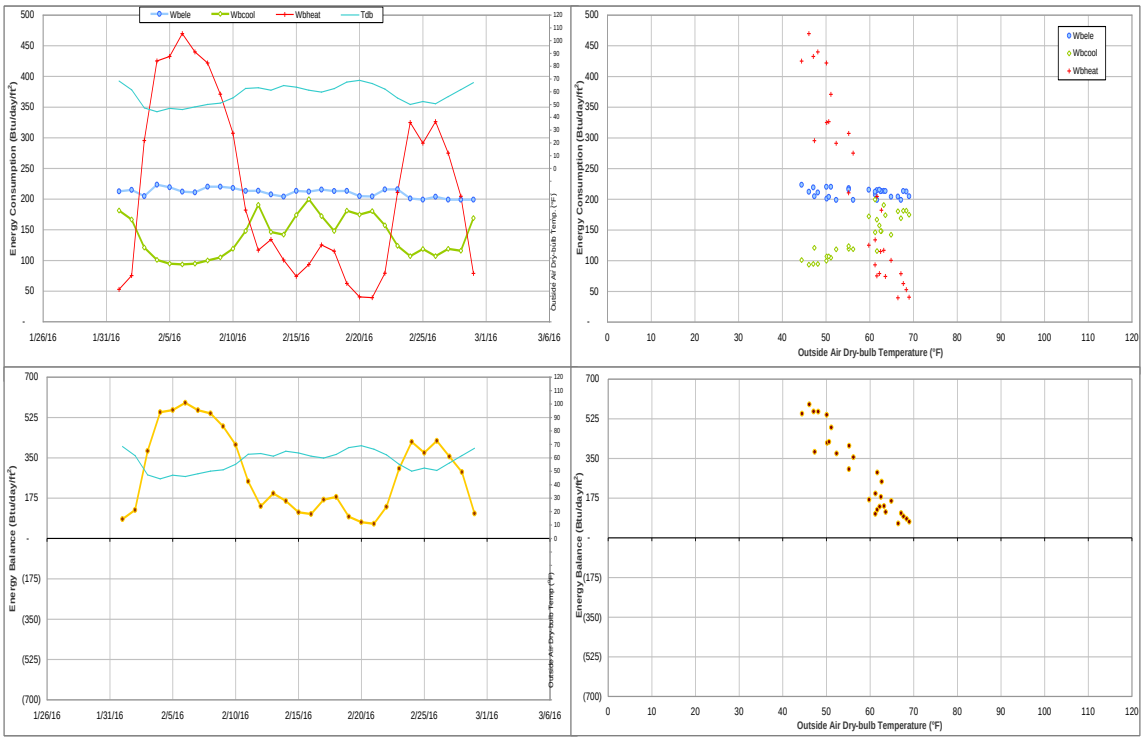


Figure V-10 Central Campus Parking Garage TAMU BLDG # 469 Energy Balance Plot during February 2016

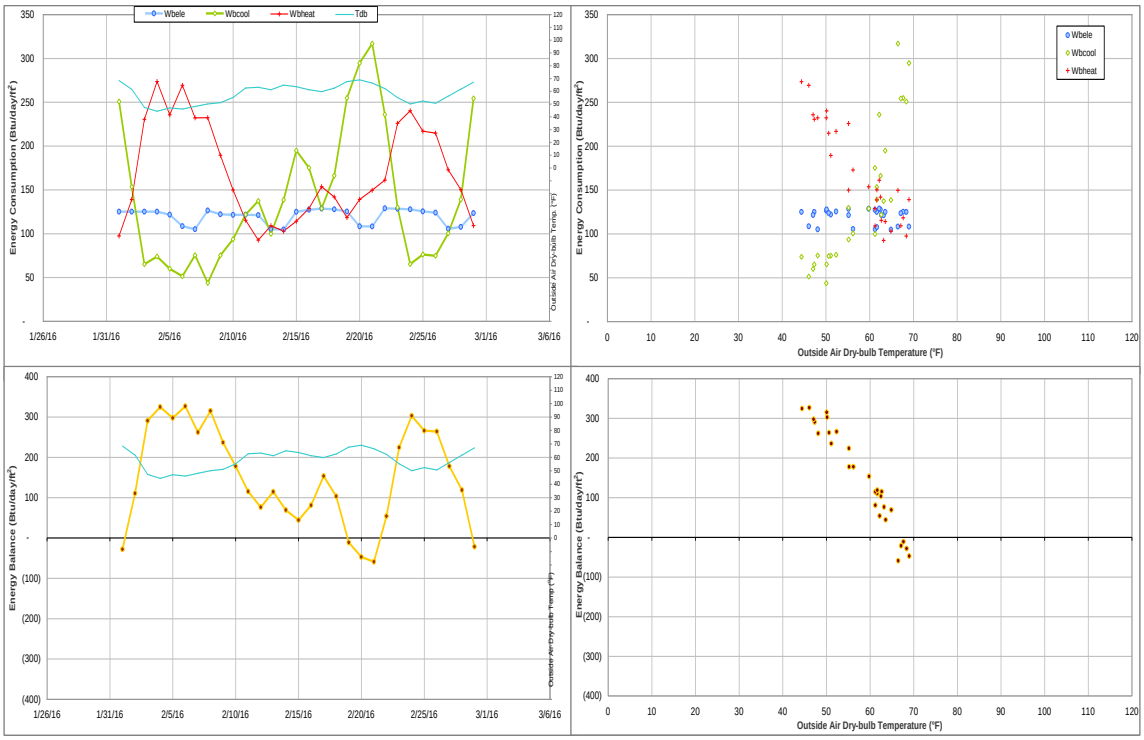


Figure V-11 Animal Industries TAMU BLDG # 472 Energy Balance Plot during February 2016

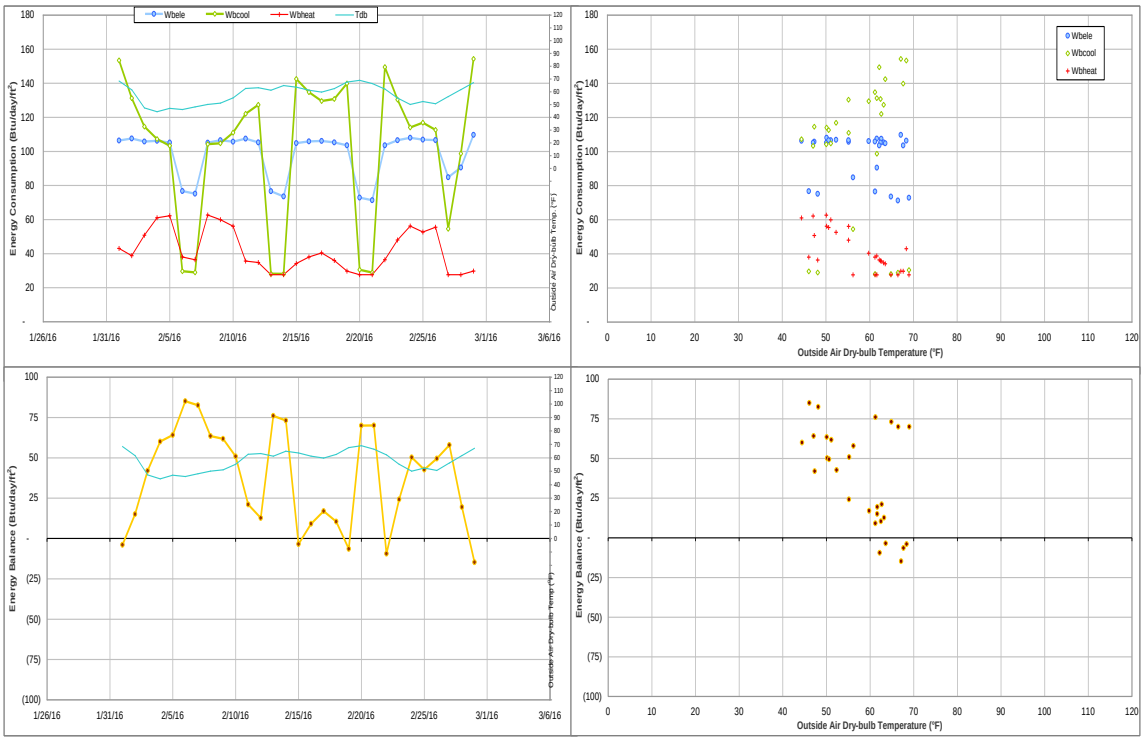


Figure V-12 Bolton Hall TAMU BLDG # 480 Energy Balance Plot during February 2016

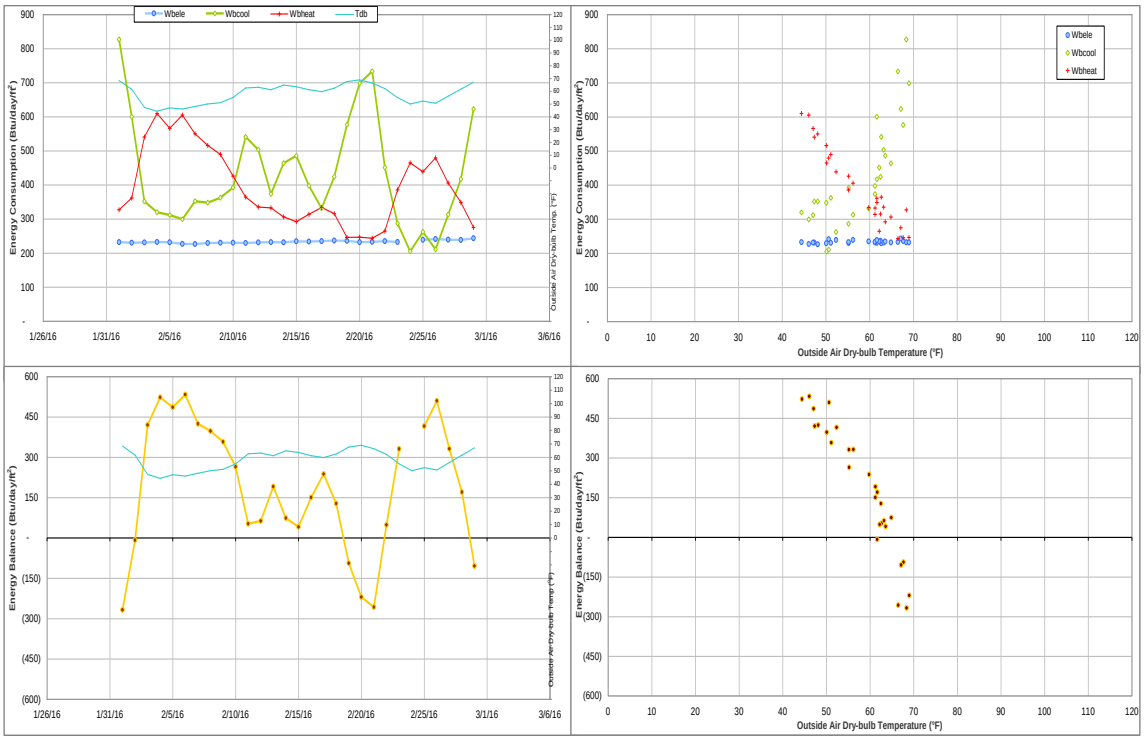


Figure V-13 Chemistry Building TAMU BLDG # 484 Energy Balance Plot during February 2016

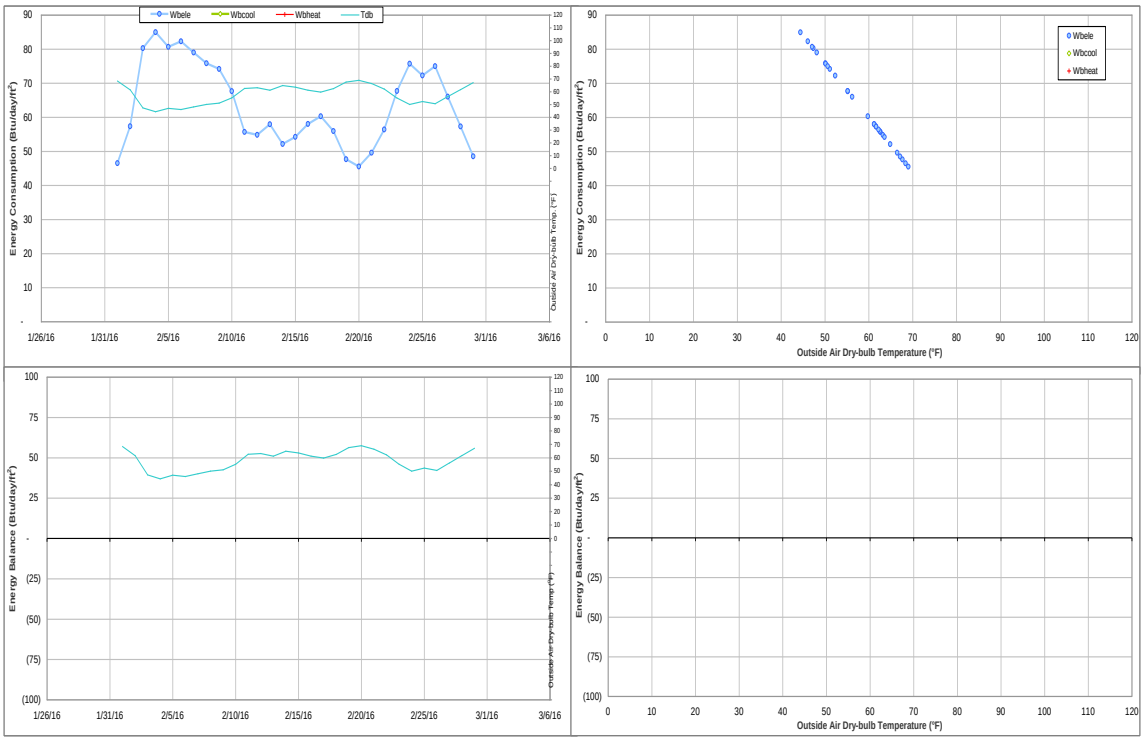


Figure V-14 Concrete Materials Laboratory TAMU BLDG # 501 Energy Balance Plot during February 2016

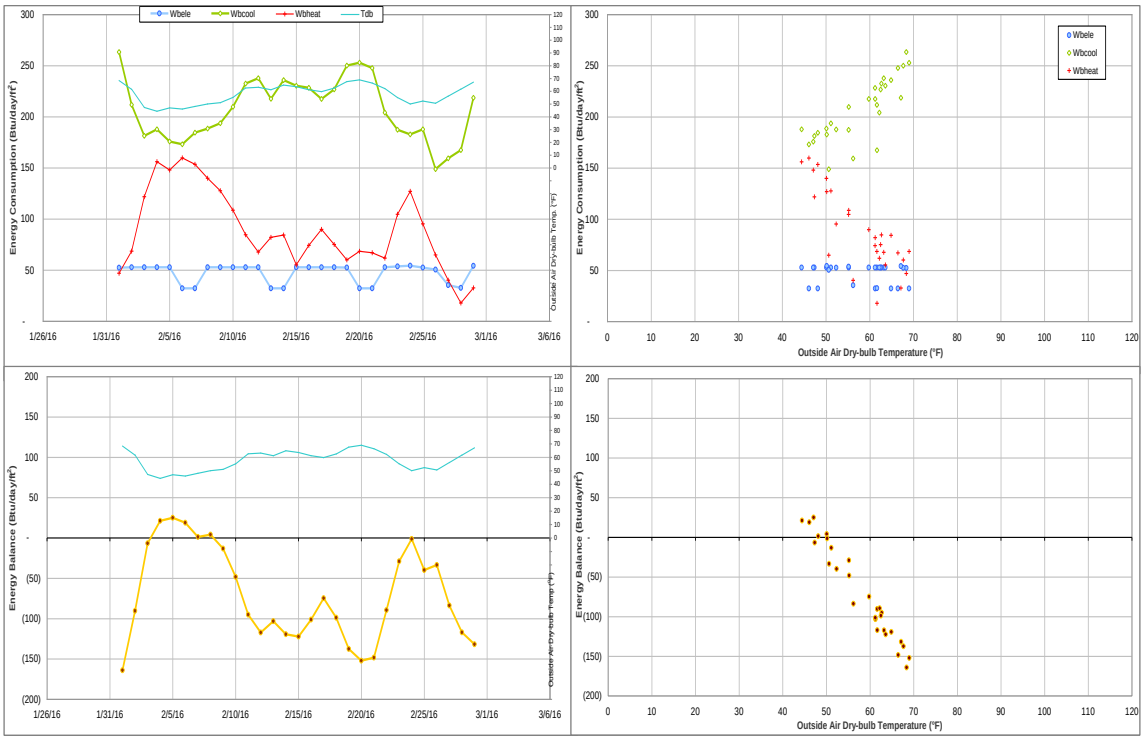


Figure V-15 Nagle Hall TAMU BLDG # 506 Energy Balance Plot during February 2016

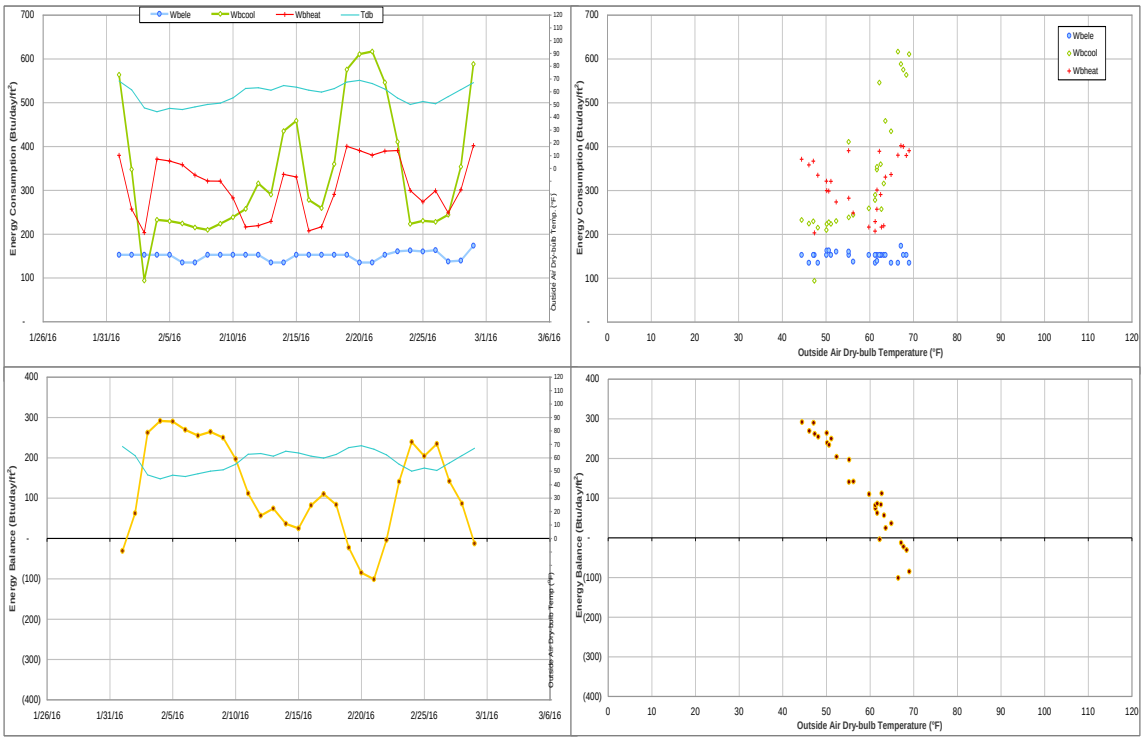


Figure V-16 Doherty Building TAMU BLDG # 513 Energy Balance Plot during February 2016

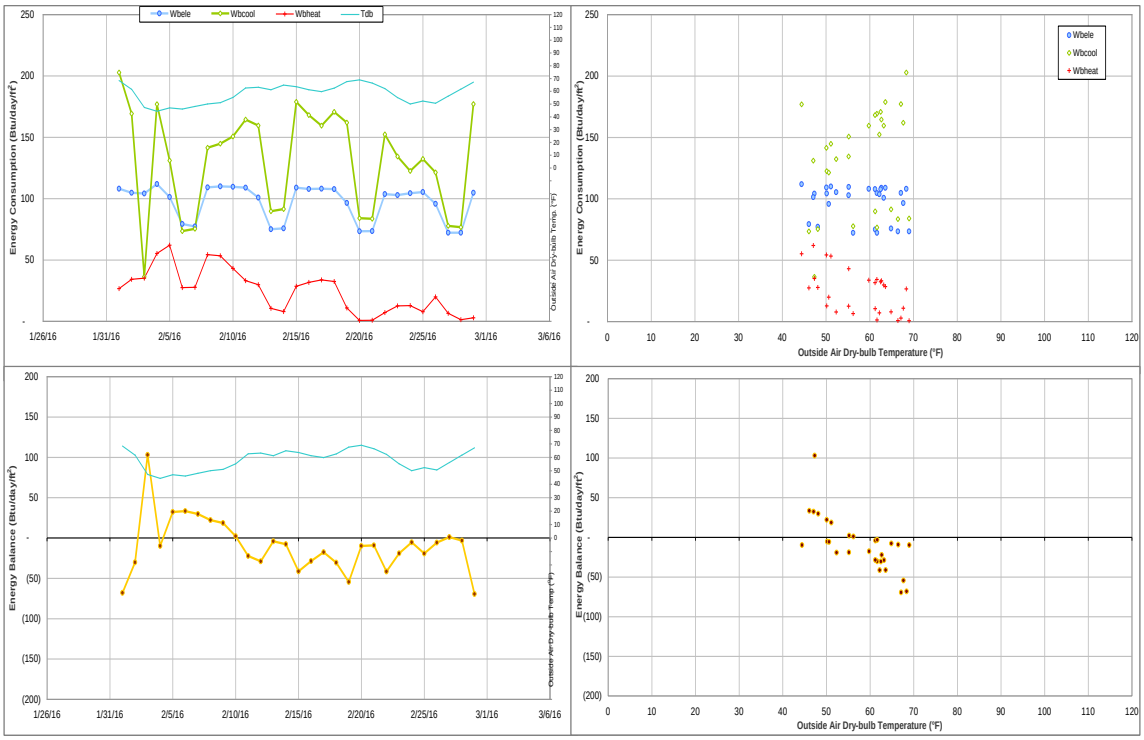


Figure V-17 Blocker building TAMU BLDG # 524 Energy Balance Plot during February 2016

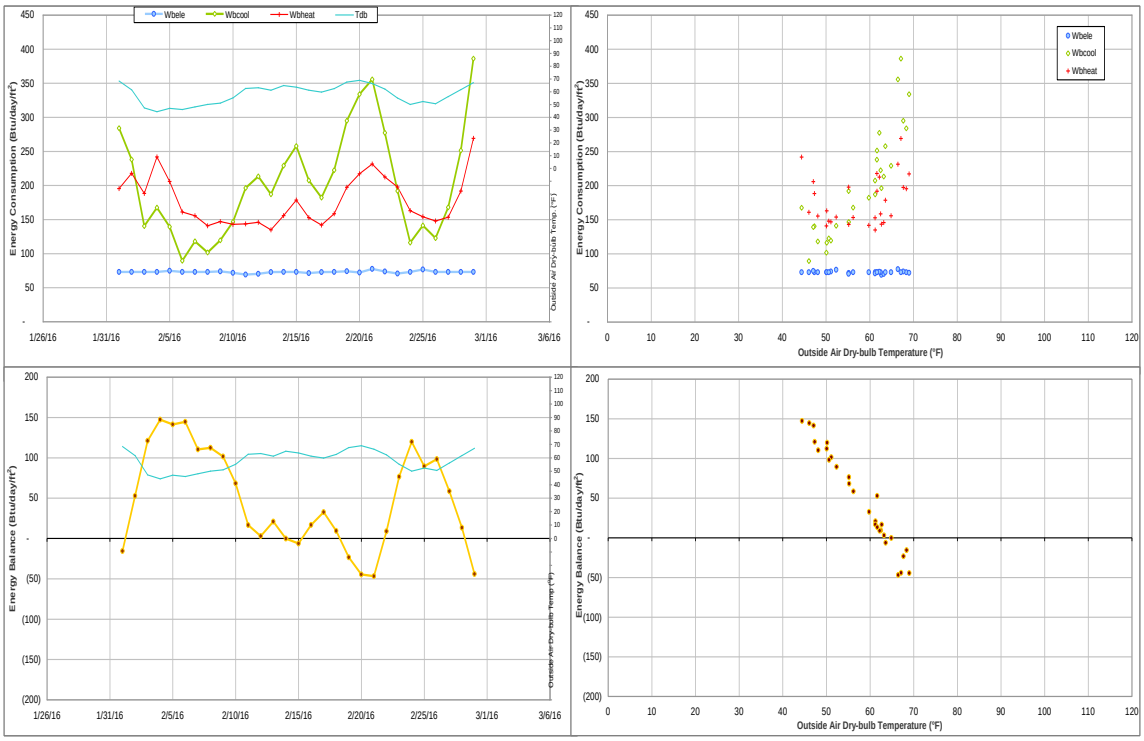


Figure V-18 Haas Residence Hall TAMU BLDG # 549 Energy Balance Plot during February 2016

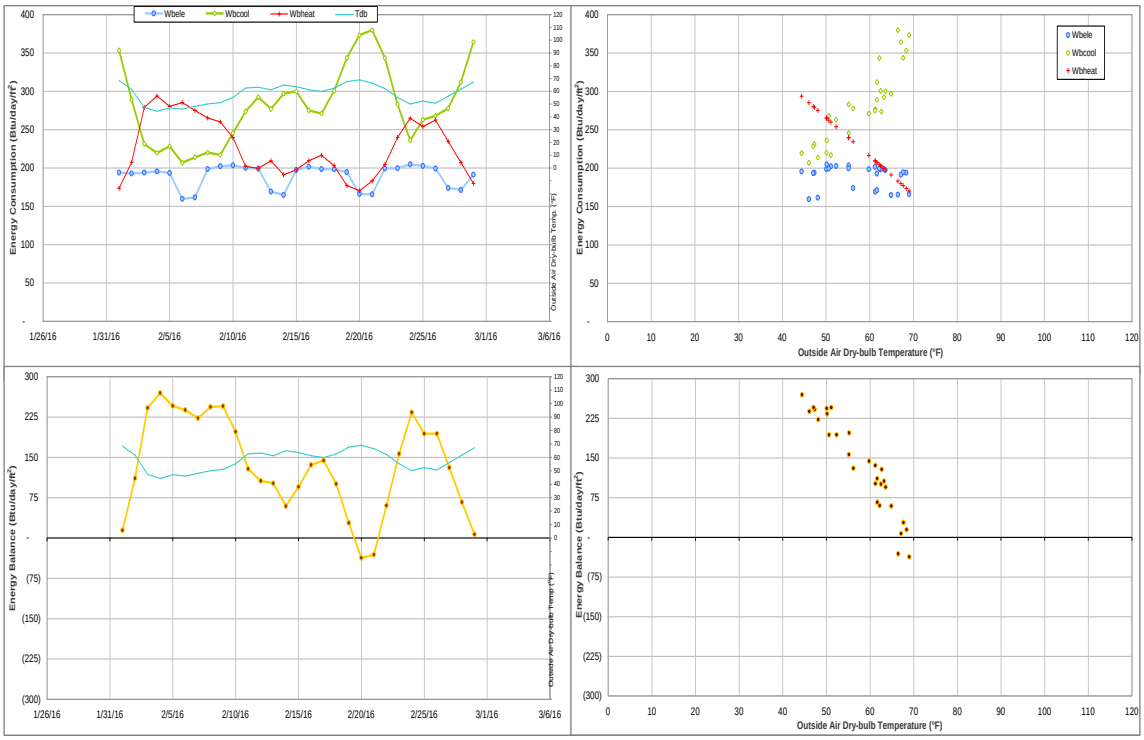


Figure V-19 Veterinary Medicine Administration TAMU BLDG # 1026 Energy Balance Plot during February 2016

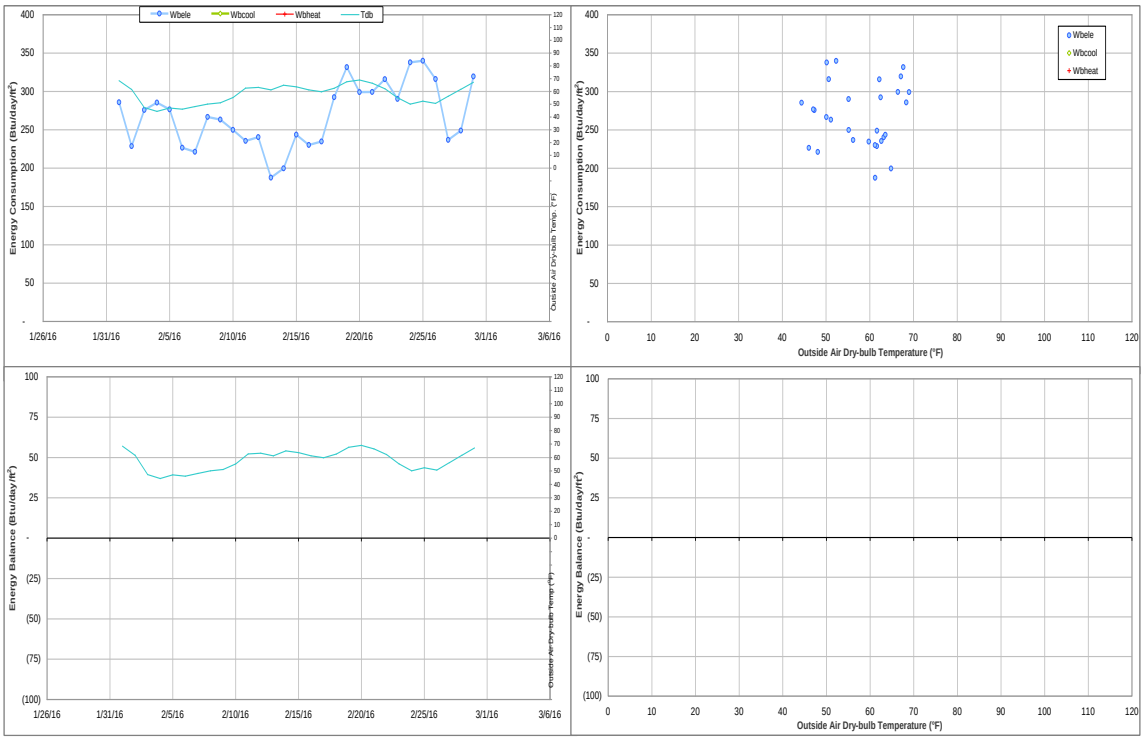


Figure V-20 Forest Science Laboratory Building TAMU BLDG # 1042 Energy Balance Plot during February 2016

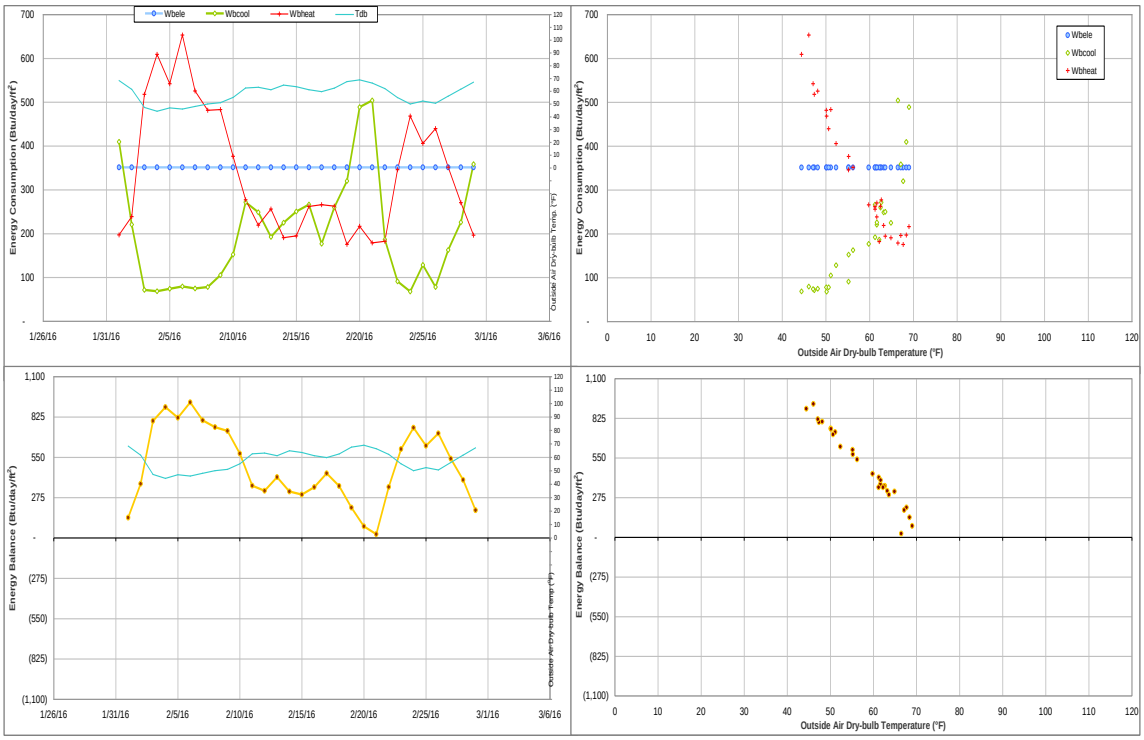


Figure V-21 Veterinary Anatomic Pathology TAMU BLDG # 1184 Energy Balance Plot during February 2016

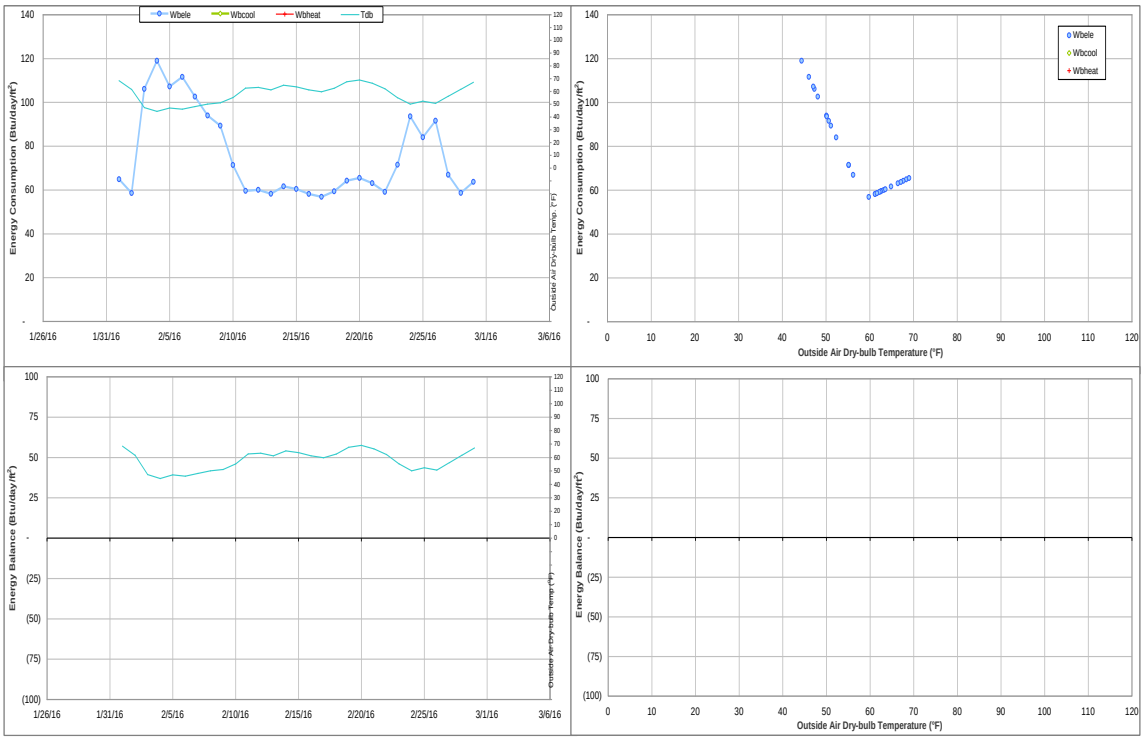


Figure V-22 University Apartments - The Gardens F TAMU BLDG # 1454 Energy Balance Plot during February 2016

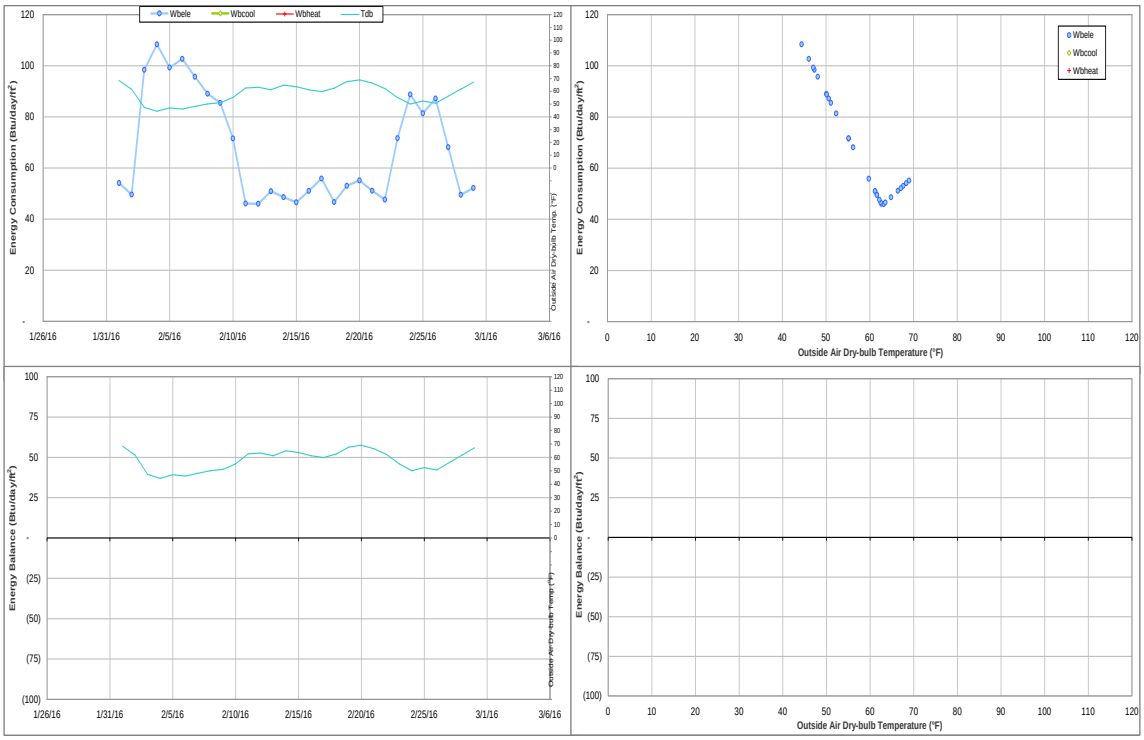


Figure V-23 University Apartments - The Gardens G TAMU BLDG # 1455 Energy Balance Plot during February 2016

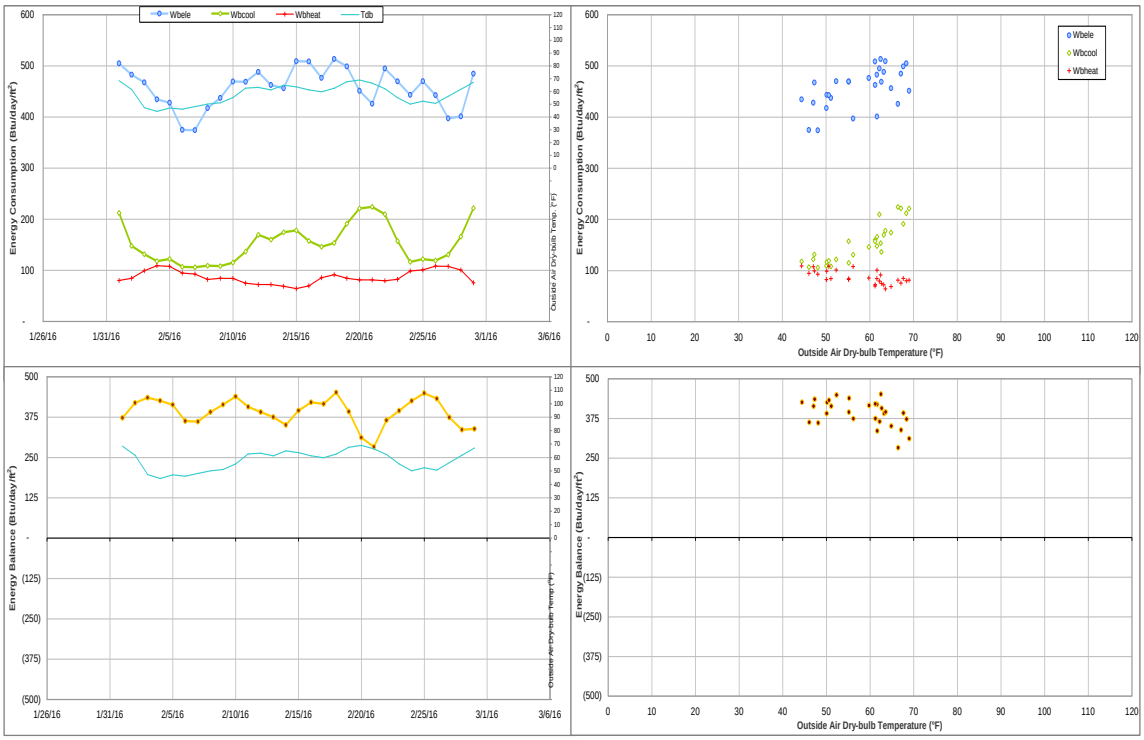


Figure V-24 Rosenthal Meat Science & Technology Center TAMU BLDG # 1505 Energy Balance Plot during February 2016

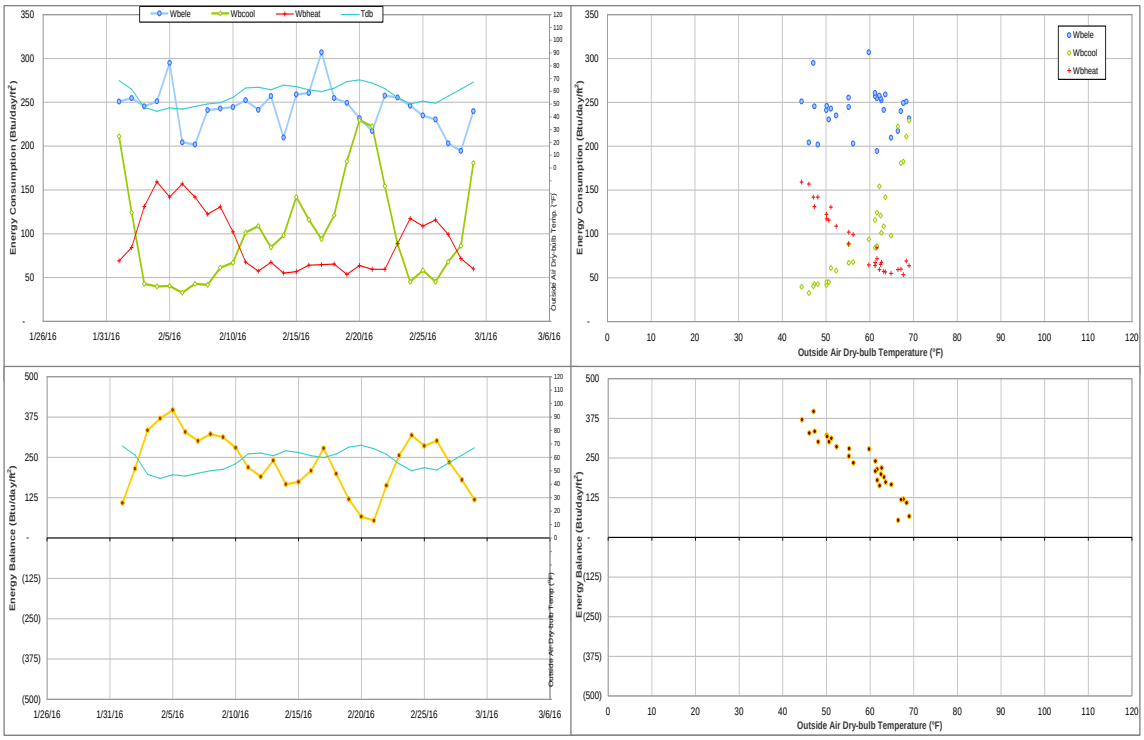


Figure V-25 TX School of Rural Public Health TAMU BLDG # 1518 Energy Balance Plot during February 2016

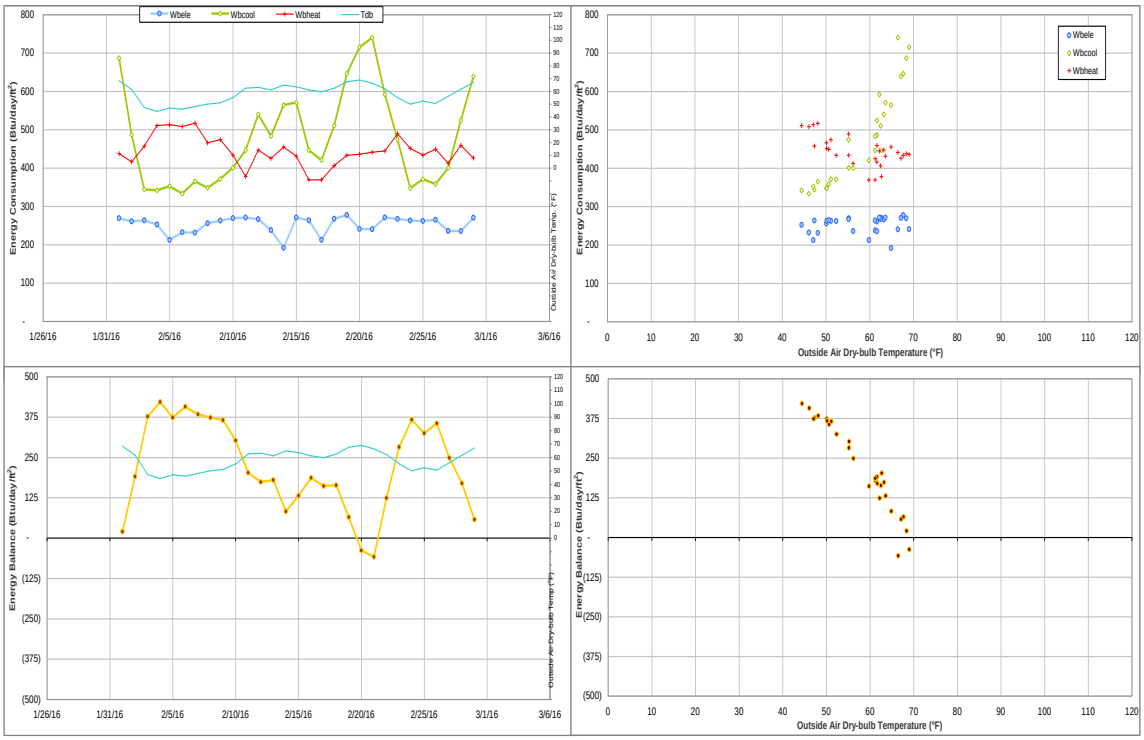


Figure V-26 Nuclear Magnetic Resonance Facility TAMU BLDG # 1525 Energy Balance Plot during February 2016

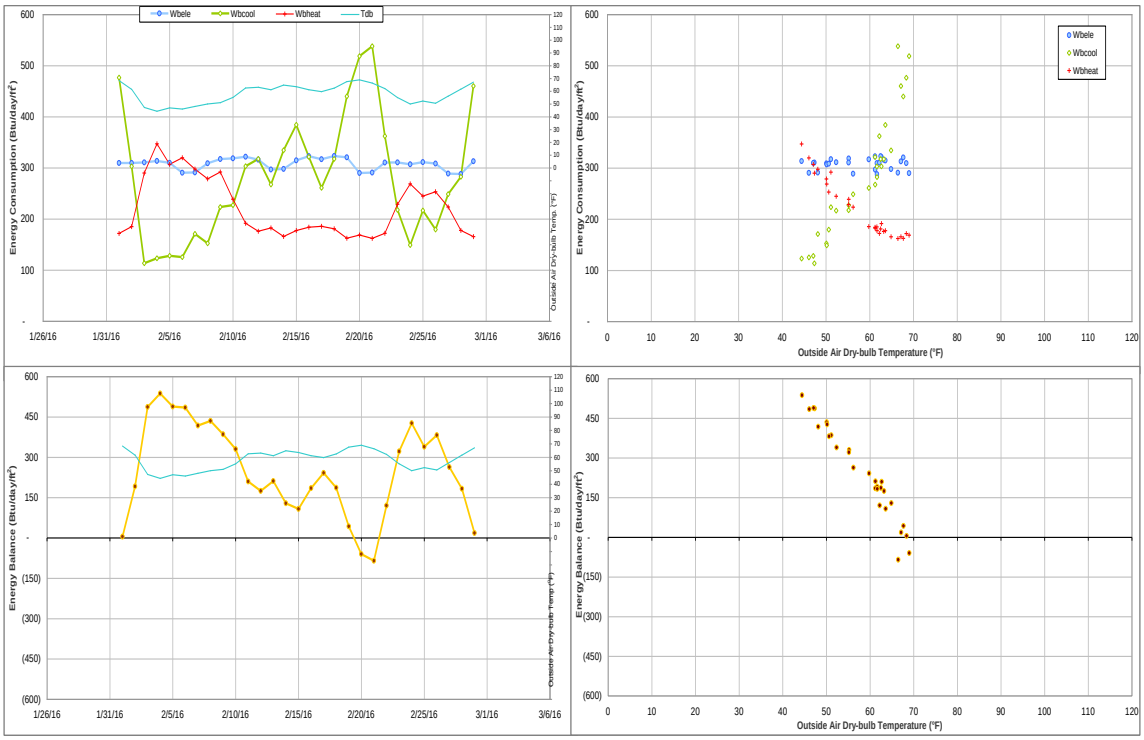


Figure V-27 Interdisciplinary Life Sciences Building TAMU BLDG # 1530 Energy Balance Plot during February 2016

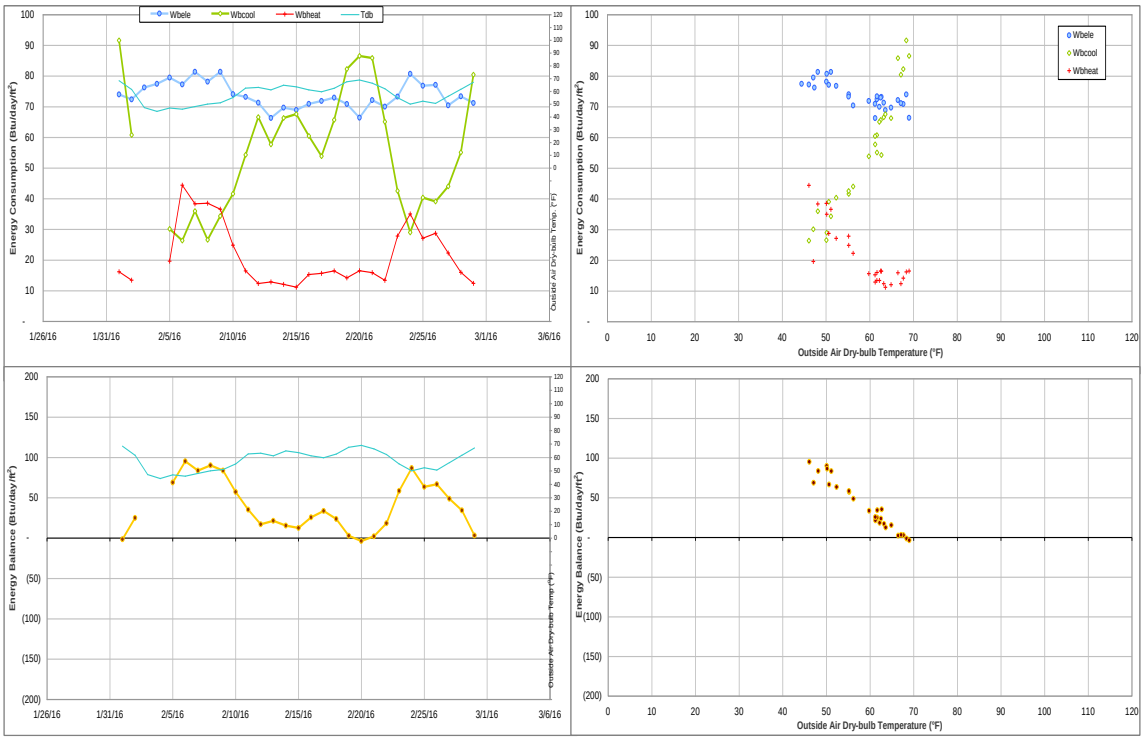


Figure V-28 White Creek Apartment 1 TAMU BLDG # 1590 Energy Balance Plot during February 2016

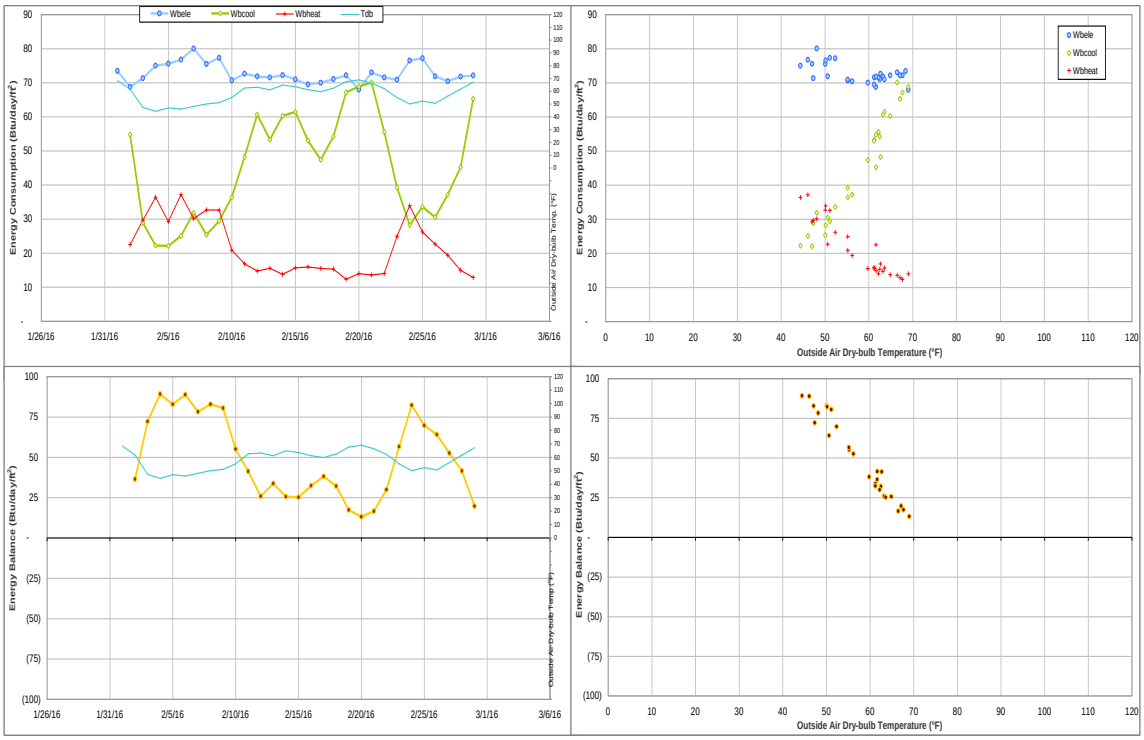


Figure V-29 White Creek Apartment 2 TAMU BLDG # 1591 Energy Balance Plot during February 2016

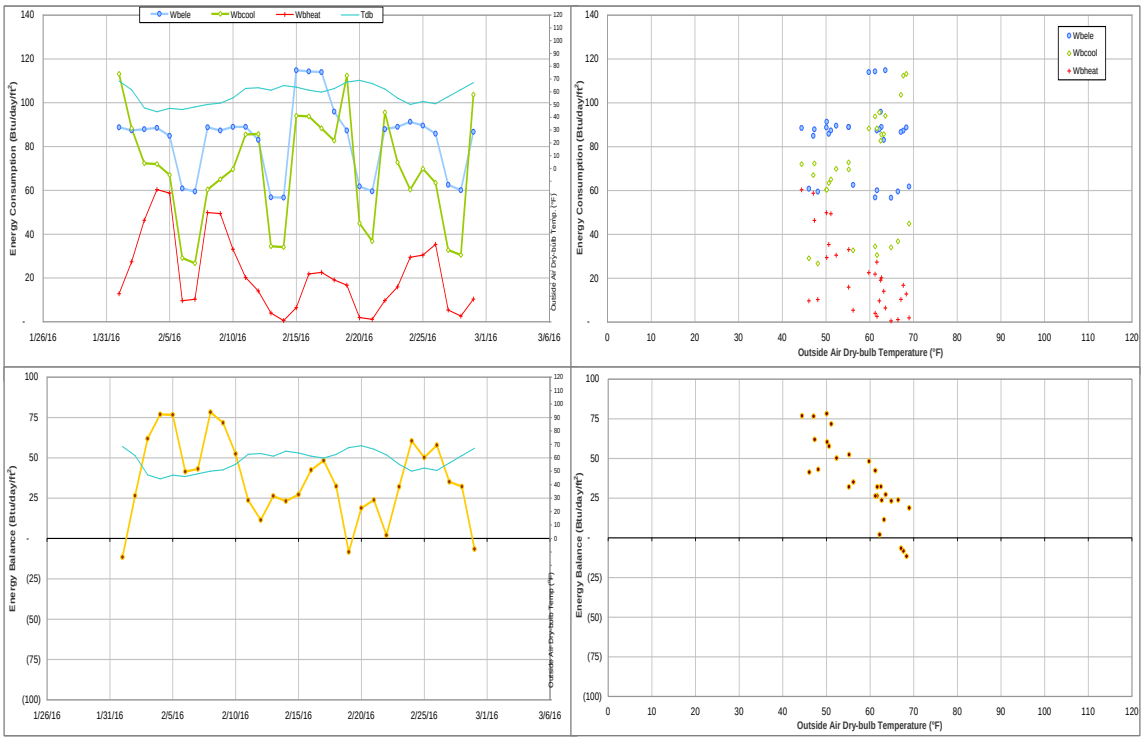


Figure V-30 Allen Building TAMU BLDG # 1607 Energy Balance Plot during February 2016

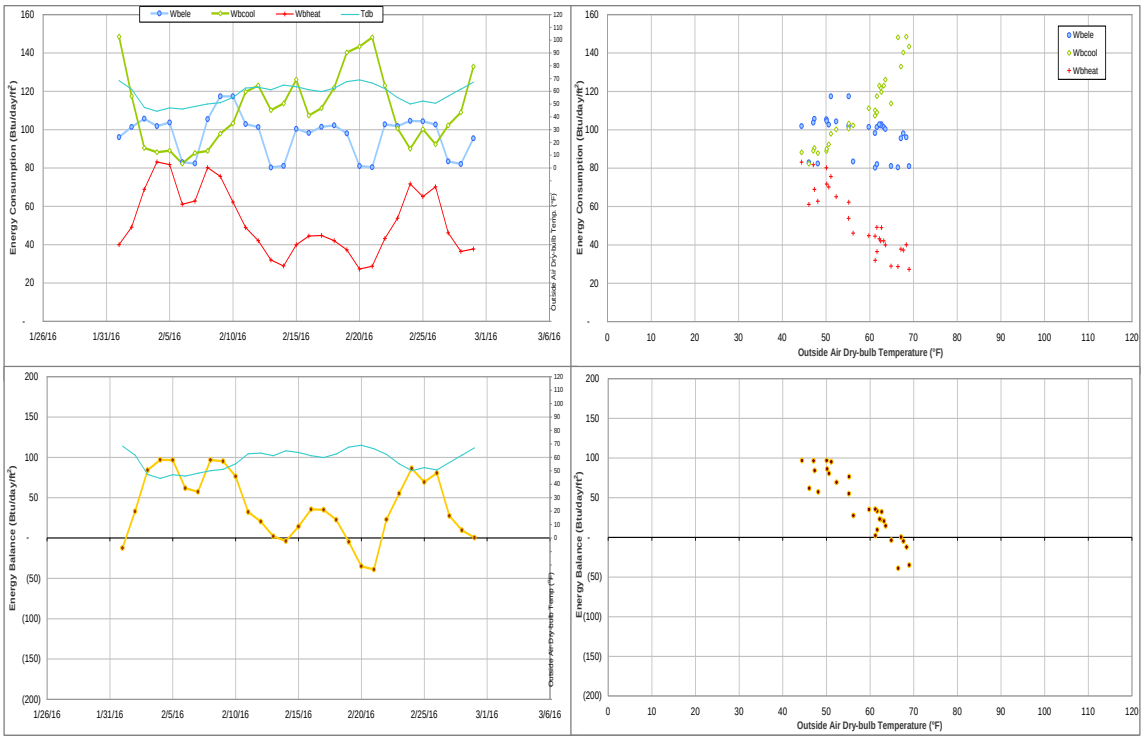


Figure V-31 TTI Headquarters TAMU BLDG # 1609 Energy Balance Plot during February 2016

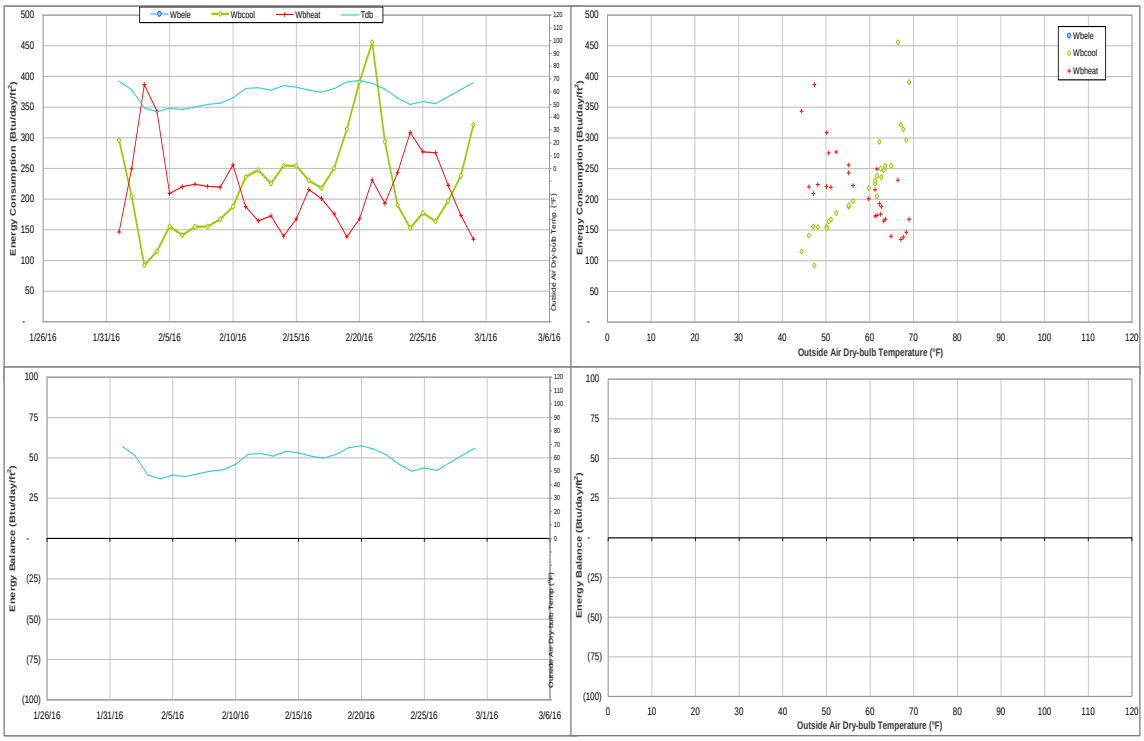


Figure V-32 Multi-Species Research Building TAMU BLDG # 1911 Energy Balance Plot during February 2016

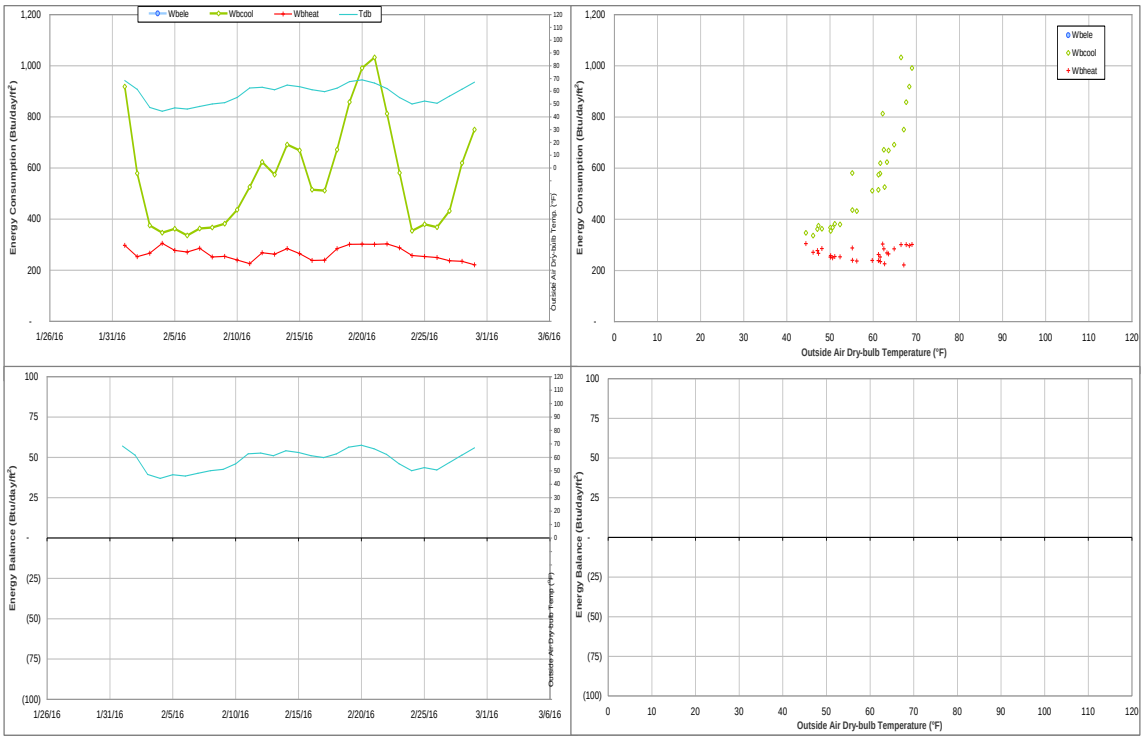


Figure V-33 NCTM Manufacturing Building TAMU BLDG # 10226 Energy Balance Plot during February 2016

VI. Appendix

ENERGY ANALYSIS GROUP

ENERGY SYSTEMS LABORATORY
TEXAS A&M ENGINEERING EXPERIMENT STATION

Project: TAMU: Energy Analysis*

Report: Energy Consumption Data Quality Assurance/Quality Control Assessment Report for the Month of February 2016

Prepared for:

Utility & Energy Services

Division of Administration

Texas A&M University

Authors: Xiaoli Li, Yifu Sun, Kimberly Jones

Dr. Juan-Carlos Baltazar, and Dr. David Claridge

Date: March 2016

* For information on TAMU project please contact the Team Manager Dr. Juan-Carlos Baltazar